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Address

THE PROBLEMS OF STATE BOARDS OF HEALTH.*

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PORTLAND, ME.

It is fitting that acknowledgment should be made first of the honor conferred by this conference on the state from which I am a delegate, by your selection of its representative as your president for this year; on behalf of my colleagues I beg that you will accept the expression of appreciation which I bring from them, and permit me on my own behalf to thank you again for such share of the honor as rests on me. I venture to hope that at the close of this meeting you may still hold toward me the same feeling of confidence and good will that prompted your action of last year in electing me to preside at this annual conference. My own appreciation of the privilege is the greater because of my positive conviction that this body continues to find its greatest usefulness in a strict adherence to the line of action contemplated by its originators, and reaffirmed at the meeting of 1900 at Atlantic City, when its purpose was declared to be "to confer, to compare methods, to detail experiences, to seek helpful suggestions" which would enable us when we returned to our homes to profit by our meeting and by our interchange of ideas, rather than for the formal reading of set papers. The experiences of the past few years, especially those of that meeting when we met to express our views and declare our attitude toward the plague invasion of the western coast, have strengthened the belief that, whatever the nature of our relations by law to the health service of the general government which have been those of cooperation and mutual confidence, the individuality of this organization should be maintained, and it should not lose its identity or weaken its influence by allowing itself to become an adjunct or appendage to any other body, sanitary or medical. Its time or place of meeting and the character of its discussions should depend on its own convenience and interests, and on them alone.

A NATIONAL DEPARTMENT OF HEALTH.

Among the subjects which have been brought prominently to the attention of sanitarians during the past year is a renewed proposal for the creation of a National Department of Health to be in charge of a cabinet officer, to be designated the "Secretary of Public Health."

Various organizations have already given this proposition favorable consideration, and one, at least, has decided on a definite and organized line of action. The American Association for the Advancement of Science has formed a committee of one hundred to consider the question and has invited to identify themselves with that committee, prominent sanitarians, members of our state boards of health, distinguished educators, philanthropists and social economists. To what extent this conference may deem it best to express approval of the proposition in any of its aspects or of any plan of organization is for you to determine.

The committee of one hundred has but recently, at a meeting held in New York, April 18, 1907, perfected an organization and concentrated its activities by the appointment of an executive committee of seven members whose names offer assurance of thoughtful consideration and unprejudiced conclusion.

Few of us, I think, can fail to appreciate the fact that, admirable as is the character of the work which the general government is doing in various directions to promote directly or indirectly the health and well-being of the people, much more is to be gained by uniformity of management and concentration. However favorably the idea of a "department" may impress any one of us on first thought, it must seem, on reflection, that the practical aspect of what to secure, and how to obtain it, and how to conduct it, and what will be its scope and relations to existing national or state bureaus or boards, involve some questions not altogether easy to decide offhand.

Personally I should regret to see any plan proposed or organization perfected which would fail to utilize the Bureaus of Chemistry, of Animal Industry, and particularly the carefully organized and admirably conducted Public Health Service, which is second to no similar service in the attainments of its officers and the character of its work. I should much dislike to see any action urged which would in any degree supersede any of these bureaus or contract their fields of usefulness, after so much of time and money and effort have been spent to develop them and to bring them to their present high degree of efficiency, nor do I think such result a necessary outcome of the discussion.

So far as the question at issue involves the status of the Public Health Service, however, I have a pronounced opinion which I do not ask any one to share with me unless he arrives at a conclusion from his own point of view. That opinion is that its powers and opportunities as a Public Health Service are of vastly more importance than its work as a Marine Hospital Service, for which it was originally intended; that they are by no means as complete and extensive as they should be, and that the service under its present management is deserving of the most cordial cooperation on the part of every one whose official duties bring him into relation with it, and that whatever may be done by our assistance to secure for it more ample powers and facilities for its work should be given it.

I do not agree with those who argue that an enlargement of the bureau as it now stands would not be a suffi-

* Address of President, delivered at the Annual Conference of State and Provincial Boards of Health of North America, Washington, D. C., May 30, 1907.

ciently marked step in advance of what we now have; I believe it would be a decided step toward something which we all desire, but which I do not believe it practicable to reach by a jump. At present I believe much is to be gained toward attaining the finality of our hopes by laboring to secure for established bureaus, under single control, greater resources and powers for the cultivation of a wider field of usefulness. I regard it at present as better policy to develop further something which we have in existence rather than to reject a little because we can not enjoy at once our ideal.

RELATION OF NATIONAL TO STATE HEALTH DEPARTMENTS.

No argument is needed in this presence in favor of efforts to secure more extensive relations between the general government and the health interests of the country at large. Local self-government finds a conspicuous demonstration of its value in the ways in which the interests of our states have been conserved and promoted by state boards of health. They are abundantly able to continue this work as their several necessities demand, and the relation of the general government should be advisory and cooperative except in matters of maritime and border quarantine or those involving international questions or interstate relations brought about by epidemics, in which the national authority should be supreme. It is to be hoped that the time may come when the quarantine administration of every port from Maine to Alaska will be in the hands of the general government.

I do not hesitate to affirm also that the national government should control and administer all sanitary inspection along our entire border land. Few of us view these questions from an altogether disinterested standpoint, and the selfishness which prompts the expression of this wish I freely admit, without, however, conceding that the urgency or desirability of such control is any the less.

THE IMMIGRATION PROBLEM.

My own state, Maine, has a border on sea and land of some hundreds of miles. It has intimate communication with foreign countries by several Transatlantic steamship lines, and with Canada and the west by numerous railways, two of which, the Canadian Pacific and the Grand Trunk, transport yearly through Maine thousands of immigrants to the Western Canadian territory and to our own northwest. These immigrants land either at Halifax, St. John or Portland, and Maine has spent thousands of dollars, of which the city of Portland has contributed no inconsiderable part, for restrictive measures by train inspection, quarantine and vaccination against the entry of smallpox from Europe, the Maritime Provinces and Canada. An insignificant portion of this traveling population tarries in Maine, but most of it passes on, either to the west or Canada. The benefit to Maine for self-protection is comparatively small, and there seems to be no good reason why the cost of measures which are ultimately in the greatest part for the benefit of other states or foreign territory should be borne by our state. In greater or less degree the same argument holds good for every border state with similar conditions.

We in Maine have always, when application has been made, received the substantial aid of the Surgeon General of the Public Health Service by the appointment of acting assistant surgeons for inspection service, on our own nomination, whose salaries have been paid in part by that Bureau.

The Surgeon General, however, has frequently been hampered by lack of funds, resulting in withdrawal of his assistance after the more urgent need for combined effort has passed; then the total expense has again returned for the state to bear. Such conditions have existed during the past winter and exist now.

For many years the city of Portland, although illy able to afford it, bore the entire cost of quarantine and inspection of immigrants who at once passed over the Grand Trunk Railway to Canada, until, through the efforts of the state board of health, the Public Health Service assumed entire charge.

For these reasons, which have come close to our interests, I believe that all responsibility, labor and expense of excluding from the country communicable diseases by land or sea should be assumed by the general government. I believe, too, that the necessity of such control, which is always apparent to us of the coast and border states, is one potent reason why some form of a national department of health should be developed, organized to meet all the demands which the health interests will make, and provided with ample funds for its maintenance and administration. No sum would be thought too extravagant to promote or conserve our commercial interests; certainly no sum should be considered as misapplied which helps a people to a knowledge of its sanitary needs, its vital statistics, the saving of life, and the greater prosperity thereby secured.

The lines of work which could properly and profitably be carried on by the general government for the benefit of the country at large are many and readily suggest themselves to those of you who have followed at all the discussion of this subject, but there need be no fear that in any of them will the advisory or executive relations of the state boards to the people of their several states be encroached on.

Whatever may be our individual views on the general question, we shall lose nothing, I am sure, if we preserve an open mind and weigh carefully and analyze with deliberation its various aspects which are bound to present themselves. It seems to me that it is not something to be decided hurriedly, and where there are sure to be honest differences of opinion there is the greatest need of a conservative attitude.

It would seem to be a wise procedure for representatives of all the different organizations actively interested to confer and, if possible, to agree on what is the most desirable form which governmental control should assume, or what is most practicable to try to obtain, and try to agree also on some course of action on which we can unite to procure the necessary legislation; otherwise there is likely to be exhibited an absence of concerted action which will do little to invite confidence on the part of Congress or in any way to further the project.

No one organization has a monopoly of interest in this project; no one organization can secure its accomplishment unaided. Let us, therefore, be willing to consider the matter in all its bearings and identify ourselves, if at all, with that course which will promise to secure the greatest advantage to the greatest number.

STATE HEALTH LEGISLATION.

Interesting and valuable results came at the last conference from our exchange of information as to the resources at command of the different boards, and the outcome of recently attempted legislation in the several states is of great interest. I am persuaded, therefore, that much benefit will ensue, if a part of the time of this meeting is devoted to a brief report from each repre-

sentative of what has been accomplished for sanitary legislation in his state during the past year and what gain has been made in the direction of enlarging the powers or duties of his particular board. If some of us have met with disappointments they will be, in a measure doubtless, assuaged if we can learn that others have been more generously equipped. In this connection it may not be out of place for the introduction of a plea for the renewal of the systematic interchange of information on current sanitary conditions which formerly obtained between the different state boards. In the early years of their existence some of us found this clearing-house method of the greatest practical assistance. This custom has prevailed among the New England boards to perhaps a wider extent than elsewhere, but it was often found that prompt notification to other boards, to take a single instance, of the outbreak of contagious disease, without waiting for inquiry, was of immense advantage in enabling one state to anticipate threatened invasions. It invited to more intimate acquaintance between the officials of the different states, prompted cooperation between boards, and kept each in touch with all to the mutual advantage. For some reason not easy to determine, perhaps because of the greatly increased pressure of work which came with enlarged powers and the burden of new duties, this practice has to some degree fallen into disuse. I think this a mistake and earnestly urge that it be renewed for the common advantage.

It is also a matter for regret that of late years our meetings have been wholly limited to attendance from the United States. This is a conference of State and Provincial Boards of Health of North America, and our friends across either our northern or southern line should not feel that, because in the organization of our Public Health Service the National Congress provided that the Surgeon General should yearly confer with the representatives of the different states, the essential nature of this organization has undergone any change. We can assure them that this is not so in the least; such conferences as we may hold under the law do not in any way affect the nature of our own conferences between ourselves, nor prevent their participation in the discussion of matters of common interest by health organizations of the different countries. We can not know too much of each other nor have too familiar an acquaintance with the health laws of our neighbors, and we should utilize every means of bringing about a renewal of relations which have in the past been mutually agreeable and profitable.

THE ANTITUBERCULOSIS CAMPAIGN.

The unparalleled interest now displayed throughout the civilized world in the prevention and restriction of tuberculosis is convincing proof that the educational method of securing results in public sanitation is producing practical results. In some departments of public health work, notably that alluded to, the pupil is outstripping his teachers, and the demand for practical methods and means threatens to exceed the supply. The present situation and the attitude of the lay public toward the subject of tuberculosis emphasizes how this agitation waxes by its own activity. Skilfully guided, it can not fail to be of the greatest conceivable benefit to mankind; if it undertakes to manage itself, as there is evidence that it sometimes does, the outcome is not infrequently disappointing and disastrous. Is there not a possible danger that the public is being overeducated; that it is being led to expect too much by a too positive affirmation of things which are not always so, and by the prediction of results which do not always arrive?

Much of extravagant prediction may be laid to enthusiasm, but when the layman is gravely assured that the date is known on which tuberculosis will have been eradicated from a particular country; when he is informed that all cases of tuberculosis can be cured by the erection and maintenance of sanatoria; when it is thought worth while to consume time in discussing what use can be made of the sanatoria plants after they are no longer needed, it seems to me we may well be apprehensive lest there be some time an unpleasant reaction with loss of interest and lack of confidence and support.

Do not understand me as meaning to say that such statements as I have indicated are common. Far from that; but I have heard them in places where they were accepted as gospel because of the authority from whence they came, and I have made the allusion merely to indicate what seems to me an unwise tendency to overconfidence which may some time annoy us.

NEED OF ACTION AGAINST OTHER DISEASES.

The extraordinary situation, for it certainly is such, impresses me most forcibly in that we may be in danger of forgetting that there are other conditions and diseases the importance of which may be dwarfed in our minds by the popular interest in tuberculosis. I am willing to assume the functions of the *advocatus diaboli* and assert that some other conditions might, with the same aroused interest on the part of the public under the same systematic attack and with the demonstration of the same tangible results, be reduced to the same controllable minimum which we hope and confidently expect in the case of tuberculosis.

Suppose it were possible to invoke against typhoid or diphtheria a fractional part of the present antagonism to tuberculosis; suppose we could induce the people to look on scarlatina and epidemic cerebrospinal meningitis as they do on smallpox. Not as they look sometimes when we talk vaccination to them, but as they do when the malignant form of the disease threatens, and some of us have seen that, what might we not accomplish with their aid given freely as they give it now to fight tuberculosis?

The greater prevalence of the disease and the economic loss it entails are not conclusive reasons for this exceptional antipathy. It is because they have been educated in a hundred ways, and I am proud to know that I am addressing some of those who have helped to educate them. Typhoid, diphtheria, scarlatina and cerebrospinal meningitis leave people just as dead as does tuberculosis, although not so many of them. The former diseases are a great deal harder to manage and, when epidemic, cause vastly greater disturbance of the social equilibrium. Why do we not organize campaigns against them? Why do we not try some of the same kind of education which we are applying in the case of tuberculosis? Why have we not succeeded in creating the same kind of public demand for their extirpation? Curiously enough, the public apprehension from these diseases seems lulled in the face of the greater interest in the disease which is so much more insidious and so much more widely spread. Mankind seems to think that the end of our fighting resources has been reached. Has it? I think not; and just so firmly I believe that no one should be allowed to think so. I am not reflecting on any zeal displayed against tuberculosis as too great or misplaced, but for more in other direc-

tions, because we have yet much to learn about some of the other communicable diseases.

State boards of health are endowed with such a variety of widely different advisory and executive functions that one part of their work has as much demand on us as another so far as its complete fulfilment is to be sought, and there is need of care lest we magnify too much some of our duties at the expense of others which are more commonplace. Our obligation to the public is to see that none of the duties be overshadowed, and no impression should be allowed that any part of our sanitary work can be advantageously ignored or neglected. Few of the state boards of health of this country will ever be in danger of becoming "mere collectors of vital statistics," as seems to be feared.

THE VALUE OF STATE LABORATORIES.

Among all the equipments of state boards of health none are of greater service to an active board, or of more practical value to the people of a state, than laboratories of hygiene. Wherever they have been established they have speedily proved themselves indispensable, and it is not too much to affirm that any state not so provided is seriously handicapped. A lack of facilities for chemical and bacteriologic work in connection with the diagnosis and study of disease and for research, places a board in the humiliating position of being unable to meet promptly the demands of its people by giving them positive information and intelligent advice. Such conditions are in the highest degree uneconomical; they are wasteful alike of life and money, and no small part of our duty lies in helping those boards which are without them to secure them. Surely every board that has one would shrink from trying to work without it.

Small as were the early ambitions of these now indispensable adjuncts to health work, the value of their assistance can hardly be estimated. From analysis of drinking waters they have passed on to that of food products, to diagnostic work in typhoid, tuberculosis and diphtheria; to the production of inoculative materials for the induction of immunity and for cure, and have helped us to most useful knowledge of the principles and technic of disinfection and the nature of disinfectants. In every direction they have added to our power, and in some conspicuous instances their advantages have been more directly brought to the people by the circulation of diagnostic outfits and by the special study of special conditions by trained traveling inspectors and investigators. There is room for a still wider extension of this particular feature of laboratory activity, particularly in the direction of investigating the newer methods of diagnosis.

They are more and more branching out into research work, always looking to the practical application of their conclusions, and the hope of still greater opportunities is always with us. Even the most modestly equipped laboratory may be made to demonstrate results that will appeal to the most hardened legislative economist or taxpayer. There is no need to cite these facts to those who have had personal experience or observation. This topic has been touched on in the hope of stimulating any of my hearers who do not now have such assistance to make renewed and systematic efforts to obtain it. Every one of the boards so equipped will respond with any aid you may ask, and any and all information desired as to their practical operation will be placed at your disposal to be used as argument for their establishment. It can be confidently asserted that after you have obtained them, no matter how small your resources or the limitations of your activities, your satisfaction will be exceeded only by your wonder at how you could do without them.

We know what the laboratory can do in diagnosis; we have seen how in some of the states, where the demand warrants, vaccine lymph and antitoxic sera have been produced as an economic proposition. New hopes are now being entertained that out of the study of the opsonic theory, which aims to increase the phagocytic power of blood cells against pathogenic bacteria, some practical way may be found to make its application capable of general adoption. Its technic, which is delicate, requiring special skill in manipulation, is not yet within easy reach of the individual practitioner or health inspector, but the hygienic laboratories may be able, if they take up this work, to find a way. It has been demonstrated as of practical value in local infections, and it is by no means beyond the range of probability that it may be equally so for systemic infections like smallpox and even typhoid.

NEED OF PHYSICIAN'S COOPERATION.

In its efforts to get at the existence of communicable and preventable diseases by compulsory notification of cases, organized hygiene has not received and does not now have, the assistance from the individual practitioner of medicine which it deserves. Collected as members of national or state bodies, physicians are profuse with resolutions and generous with expressions of approval of legislation leading to this end; as individuals, too many of them seem to consider themselves superior to the law and prone to place the interests of themselves or their patients above those of their fellow-citizens.

No health law was ever enacted which assumed to dictate in any particular with reference to the purely professional relations of physician and patient or the therapeutic management of a case; yet, judging from the complaints of local boards of health, one would suppose that laws providing for the compulsory report of cases of tuberculosis, typhoid, diphtheria, scarlatina, measles and whooping cough involved some grave interference with vested rights. There is little trouble with smallpox when recognized because the physician knows the attitude of the public, and because he is usually glad to be rid of its care. Possibly the attitude of the profession is much the same toward yellow fever and plague, but to these my experience has never extended.

There is no more constant complaint from local boards of health than that deaths are being reported from cases of typhoid and tuberculosis which were not previously known to exist, and this is especially true of the smaller communities. A few of the state and larger city boards can secure compliance with the law even in the case of tuberculosis, but more can not do so. I confess that a practical remedy has not yet presented itself to me, and perhaps I shall not be alone in grateful appreciation of any suggestion as to how such may be secured without antagonizing those whose good will and cooperation in other directions is essential. Until public opinion recognizes it as imperative we shall continue to be seriously hampered in our efforts to find removable causes of disease, and our vital statistics as to the prevalence of disease and its results will continue to be very far from reliable. Perhaps the only feasible way is to keep hammering at both public and profession until we bring them to our way of thinking. To create a demand for unpopular restrictive laws by first passing them is an altogether disheartening proposition.

V 5
190

Doubtless by this time you have concluded that I have scolded quite enough, and that pessimism has no place in such a gathering as this. I plead guilty to the extent of only exercising the privilege with the hope of exciting discussion if you disagree, and no doubt you do, with some of my criticisms. We have much more reason to be satisfied than to find fault, and my comments, I assure you, have not been made in that spirit. State boards of health have no cause to be ashamed of their records, nor to feel that collectively or individually they have not justified their existence.

If we all thought alike there would be little progress; let us trust that our differences of opinion may always result in action for the common good. At the end of my chapter of lamentations, permit me to allude to a matter which is of vital interest to the continued usefulness of this conference as an effective health organization.

THE SECRETARY'S DUTIES.

No one who has been given the opportunity to observe can doubt that a board of health whose membership and executive organization are constantly shifting will fail to accomplish the most effective work in comparison with those boards whose membership continues practically undisturbed and whose secretary has a relative permanence of office.

This conference has been well served by competent and painstaking recording officers on whom has fallen the heaviest part of the burden in making it what it is. Our debt to the present active and efficient incumbent of the office is not to be lightly estimated. The man who has many things to do is the one who does things, and it is urged on the conference to make easier the labor by giving to the office some measure of permanency and adopting a definite and liberal policy with reference to assistants. The secretary should be empowered to employ all the aid he needs to issue the annual proceedings and early notices of the time and place of meeting of the conference, and if the present assessment on the several boards is not sufficient to defray the cost let it be increased. Service as good as we have been able to command is worth paying for, and we have no right to take too much of a secretary's time from his legitimate work as a state officer nor ask him to load himself down with the drudgery of purely clerical work; and, above all, we should not make it difficult or impossible to obtain the kind of service we need by withholding adequate support, and if any body would profit by having a permanent secretary this one would. I do not think we should ask a busy officer to do more than supervise and direct the work of the secretary's office.

In closing this address, permit me to express the pleasure I find in the privilege of greeting you as members of this conference. While we miss familiar faces and regret the changes which death and retirement have brought about, all of us who have been long in the work can cherish the memory of delightful comradeships and lasting friendships and turn to welcome heartily the newer members, confident that, whatever may be the changes in the personnel, the work will go on, that there will be no lessening of enthusiasm, and no loss of that courage which makes a fight half won.

The Fruits of Science.—"While we must be careful not to hamper pure science by demanding fruits from it at every step, we must nevertheless be careful that in the pursuit of knowledge as knowledge the fruits are not overlooked."—Dr. R. J. Rowlette in *Dublin Med. Journal.*

Original Articles

THE IMPORTANCE OF THE EARLY RECOGNITION AND TREATMENT OF RACHITIS.*

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The typical advanced case of rickets presenting marked bowing of the legs and other exaggerated deformities is easily recognized and could, in fact, scarcely be overlooked. That the malady can ever be allowed to reach this extreme stage, as so frequently happens, is but another instance of the strange parental blindness to forms of disease which progress so insidiously that the departure from the normal is not recognized. This perhaps arises from such constant familiarity with the infant's appearance that its peculiarities come in some way to be accepted as belonging naturally to the individual. In no other way can we account for the degree of bony deformity which takes place before the parents awaken to the necessity of seeking medical assistance, and even when such children are finally brought to the physician it is not, in a large proportion of the cases, because of the most obvious effects, but because of one of the more acute associated symptoms of the rachitic malnutrition. An excellent example of this appeared recently at the clinic in a Syrian child two years old with marked deformity of all the long bones and difficult respiration due to associated bronchitis. Noticing the interest taken by the staff in the child's extremities, the father rather impatiently insisted that these were of no importance, but that the only trouble lay in the difficult breathing.

This apathy on the part of the parents with regard to the abnormality of rachitic deformities is only equaled by the failure of physicians to recognize not only definite early symptoms of rachitis, but also the importance, from the therapeutic standpoint, of the rachitic factor in very diverse manifestations. It is but repeating what every physician should know when it is stated that the malnutrition which affects the bony structures may affect almost equally, although not always so noticeably, the nervous, ligamentous, muscular and digestive systems. Indeed, symptoms referable to these latter may predominate in the picture. The claim has even been made that all bottle-fed children are, as a rule, to some degree rachitic. While this is by no means true of that comparatively small proportion of artificially fed infants whose food receives management of a highly intelligent order, nor of those who are endowed by Nature with exceptionally good digestive powers, it is true without question of many children who have not thrived on haphazard milk feeding or have been long subjected to a diet of condensed milk or patent infant foods.

To this list must also be added the not inconsiderable number of nursing infants who develop evidences of rachitis toward the end of a normal or prolonged period of lactation, whether from bad environment, racial predisposition, or from an increasing paucity of the more essential constituents of the breast milk. Such a racial predisposition is most commonly seen in New York among the negroes, and the Italians, Greeks, Syrians,

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

Armenians and other nationalities from southeastern Europe.

While the larger number of these cases occur among the poor, rickets is found in all classes. Yet, although the great prevalence of the condition is generally accepted academically, the actual recognition of rachitic manifestations in the patient, especially in the early or more atypical forms, unfortunately often fails or is neglected. This may be due in part to want of thoroughness in examining the entire body of the sick, or even fairly well, infant when presented for advice or treatment, but is also largely due to a faulty appreciation of the extremely varied symptoms of this vice of nutrition.

To the student or practitioner whose knowledge of rickets is derived from books or from the advanced cases presented in clinics, more especially by the orthopedic surgeon, the term suggests primarily a large square head, narrow chest, marked rosary, pot belly and bowed legs. He also may recall the enlarged epiphyses, delayed dentition, head sweating, open fontanel and lumbar kyphosis. When he meets with such a case which shows the majority of these earmarks he finds no difficulty in arriving at an immediate diagnosis. But if confronted with a case presenting but few of these classical symptoms, or one which instead of having reached its full development is still incipient, he may either hesitate to pronounce it rickets or be led by the prominence of some associated symptoms, such as obstinate constipation, chronic intestinal indigestion, convulsions or bronchitis, to overlook the underlying cause and so miss the opportunity of striking at the root of the real etiologic factor.

When the habit is once formed of rapidly but carefully inspecting and palpating the entire body of every young child presented for treatment, rachitic stigmata of varying degrees will be discovered much more frequently than is usually realized, and important indications for treatment will not be overlooked.

It is, as has been implied, a too common error to assume that because some of the usual symptoms are lacking the difficulty can not be rachitis. Rickets manifests itself under many guises and its early force may be expended chiefly on a few structures, although careful investigation will usually reveal confirmatory evidence in other directions. The epiphyses at the wrist may be unmistakably enlarged while the bones of the head are apparently normal. On the other hand, the head may show varying degrees of enlargement and squareness due to overgrowth of the frontal and parietal bosses with no recognizable involvement of the epiphyses. The weakness of the muscles of the back and of the ligaments of the spine resulting in the typical rounded kyphosis of the lower dorsal and lumbar region may be the condition which first attracts attention. Abdominal distension, favored by weakness of both striped and unstriped muscle fibers, may be extreme, moderate or completely absent. The same variability pertains to the bending of the long bones, irregularity of dentition and the rest of the commoner manifestations.

To this rule the thorax comes nearest to presenting an exception. Enlargement of the costo-chondral junctions, commonly known as beading of the ribs or the rachitic rosary, is probably the most constant sign of all, and even when not recognizable externally by palpation may, as so well pictured by Holt, be present on the inner surface of the thorax. In fact, the abnormal softness of the thoracic structure may be first strikingly apparent from the sinking in of the chest walls during inspiration in some acute affection of the respiratory tract.

Even if one has never had the opportunity to study at autopsy the effects of this condition on the underlying lung, one need only spend a few minutes watching this collapse of the anterolateral areas of the thorax where expansion should take place to realize what a serious handicap this is to the infant. It enhances primarily the danger of pulmonary involvement. It increases necessarily the dyspnea and frequency of respiration in the efforts properly to oxygenate the blood. It multiplies the labor and fatigue, adding to the possibilities of exhaustion of the muscles of respiration and of the respiratory center. It results in poor expansion, if not actual atelectasis or consolidation of anterior portions of the pulmonary tissues, which should take on vicariously the work of aërating the blood during any temporary involvement of the posterior and more dependent portions. What wonder that with this crippling of one of the most vital mechanisms the rachitic child succumbs when a normal child would have survived.

Prominent as may be the enlargement of the head and the bending of the long bones, such incidence of the disease does not begin to have the importance or to be fraught with the danger to life which results from the instability of the nervous system with its proneness to convulsions, nor from the soft and flexible thorax which increases many fold the danger from an intercurrent bronchopneumonia. It can not be too strongly restated that the real menace of rickets, both during infancy and more remotely in the later life of the individual, lies in its more subtle effects on the organism. In addition to convulsions and pneumonia already mentioned, there are dangers from laryngismus, stridulus and chronic intestinal indigestion, while the greater liability of the contracted chest to tuberculous disease in later life, and the danger to the parturient mother and her infant from rachitic deformities of the pelvis, are matters of general observation. No more potent arguments could be advanced for the prophylaxis, early recognition and treatment of this condition.

In some instances I have succeeded in so impressing colored mothers of severely rachitic children with their responsibility for the degree of the deformity that they have brought their later infants or those of their neighbors to the dispensary during the first few months after birth. With supervision of their care and feeding these children have escaped the difficulty. But such prophylaxis is rarely possible and our efforts must be chiefly directed to the early recognition of rachitic tendencies.

While not claiming that the individual symptoms of head sweating, restlessness, constipation, beading of the ribs and baldness of the occiput, caused by constant movement of the head on the pillow, when occurring singly invariably indicate the rachitic type of malnutrition, they are symptoms which should be carefully observed and considered and, if appearing together, should put us on our guard and make preventive treatment advisable. If to these be added one or more of the other classical evidences, our duty becomes imperative. If the patient is the subject of laryngismus, tetany, head-nodding or craniotabes, even if rachitic signs are doubtful or apparently wanting, antirachitic measures offer the most probable line of successful treatment. This is also true of convulsions, unless some other exciting cause is clearly present.

Rachitis may undoubtedly begin before the fifth

V 5
190

month, just how much earlier is a mooted point. Thereafter it is recognizable with increasing frequency during the latter half of the first year and may be most marked during the second year. Its distinctive features very often appear rather early when there has been a considerable period of general malnutrition, and I consider it one of the distinct advances of recent years that the different types and phases of malnutrition are now regarded less as diseases *per se* and more as the avoidable results of vicious or unintelligent methods of feeding.

Despite the different conditions which may lead to the development of rachitis and the comparatively long period during which it may first reveal itself, there must be a time when the process is incipient, and it should be our aim to detect it promptly and to begin treatment at this stage before it has advanced to the point of becoming a serious present or future menace to health or life. I have laid considerable stress on prophylaxis because even in nursing infants, having what I have called a racial predisposition, much may be accomplished in this direction by better hygienic conditions for mother and child, but more especially by attention to the mother's diet, the employment of remedial measures which will be mentioned later, and by checking the tendency to undue prolongation of the period of lactation. In these cases we must also supplement the deficient proteids of the breast milk at an earlier period than usual by giving the proteids of cow's milk, egg albumin and beef juice.

The influence of condensed milk in the causation of rickets and that of such infant foods as are not designed to be administered with a proper proportion of fresh cow's milk is so well recognized that in this connection it is only necessary to insist that their use, if they are used at all, should be limited to certain periods of emergency and thereafter promptly replaced by cow's milk.

Efficient prophylaxis in the bottle-fed is by no means a simple matter, owing to the difficulty experienced at times in securing the digestion and absorption of cow's milk, and especially of the necessary amounts of its proteid, casein. This difficulty fortunately is overcome readily by many children under proper management, and the number with whom it becomes a serious matter decreases to a certain point in proportion to the experience of the physician. In the earlier months, therefore, prophylaxis and treatment are practically the same as that of malnutrition in general.

After the fifth or sixth month, however, when the rachitic element tends to reveal itself more distinctly, certain measures become of definite value. It is a mooted point whether general tenderness of the body belongs to the symptomatology of rickets or denotes a tendency to scorbutus, but fresh orange juice, which has such a signal effect on scorbutus, has also a beneficial influence on the rachitic infant. At this period or even earlier we may also begin the administration of pure cod liver oil, at first in small quantities and increased with tolerance to half a dram or more three times a day. If not well borne, and especially in warm weather, pure olive oil has considerable value as a substitute. More than usual attention should be given to securing the ingestion and digestion of an adequate quantity of proteid, and usually by the seventh month, if need be, and assuredly in the later months of the year, this may be assisted by administration once daily of beef juice or the white of one egg, the latter incorporated with the contents of one of the bottles.

In undertaking the treatment of older children who have entered on their second year scraped rare meat pulp may be given at once and soft boiled eggs are of important assistance in making up for previous proteid deficiencies in the diet.

The management of the starch-containing foods in these older patients requires especial care, but also an intelligent differentiation of conditions. That advanced rachitic cases often show starchy indigestion is notorious. This is, indeed, truer in proportion to the degree to which the starches have been undercooked or given in excessive quantities to the exclusion of animal proteids. The more marked cases are those children with distended abdomens and foul undigested stools whose condition has been aggravated by insufficiently cooked cereals, potato or an excess of bread in their diet. Oatmeal and potato are better interdicted entirely in such cases, and other starchy foods if given should be limited to a small amount of thoroughly cooked and strained cereal of some other kind, or to zwieback, or stale bread dried to a crisp in the oven. Total exclusion of starchy food is by no means always necessary. Cereal additions to milk make available a considerable amount of vegetable proteid and mineral matter which are craved and promptly assimilated by the underfed organism of certain rachitics. There surely is no contraindication to the judicious use of suitably prepared starchy food when any considerable degree of intestinal indigestion and distension is lacking.

Of the more distinctly medicinal measures the use of cod liver oil has already been alluded to. Its use for long periods is certainly of great value. When an adequate amount of fat is lacking in the food, as in feeding with condensed milk, it may, within limits, act both as a prophylactic and curative measure. It is also valuable under other conditions in the subacute bronchitis to which rachitic patients are so liable. It is also the best of all mediums for the administration of phosphorus.

Recently in re-entering on my yearly term of service in one of the children's hospitals my attention was directed to an evidently rachitic youngster who was in bed because he was unable to walk. Enquiry elicited the information that he was an Italian aged 28½ months. When admitted to the hospital four and a half months previously he had seven upper and six lower teeth, but despite treatment with tonics, phosphates and good diet, he had shown no inclination to walk and had cut no other teeth. My suggestion that phosphorus be given him elicited the perfectly frank statement from the house physician that he supposed that the phosphorus treatment of rachitis had been long since "exploded" and discarded. Receiving, however, 1/200 grain of phosphorus in 30 minims of cod liver oil thrice daily, the child stood on his feet in less than two weeks, walked with assistance in twenty-one days, and just one month from the beginning of treatment walked alone and was cutting three additional teeth. These prompt results, which I had confidently expected, made a convert of the house physician. The opinion voiced by him at first, and which has been gaining ground in recent years owing to the position taken by some of the foremost writers on pediatrics, seems to me an unfortunate one and detrimental to the best interests of many rachitic children, inasmuch as I find phosphorus to be the agent which can be relied on to cut short most promptly the acuter symptoms of the rachitic process.

It is certainly important that no single remedy should

be emphasized so strongly as to lead the practitioner to the belief that with its use he may neglect the all-important dietetic and hygienic measures of treatment. Rachitis, indeed, tends to spontaneous recovery on the proper assimilation of a broader general diet, and special attention should always be given to the introduction of such articles as shall compensate for the previously insufficient proteid, but phosphorus is, at certain junctures, almost a specific. As seems most rational, it is particularly useful in rachitic instability of the nervous system—in tetany, laryngismus stridulus, head-nodding and the tendency to convulsions.

On children with a fairly developed musculature, but who have passed the usual age without walking or who, having begun to walk, have ceased to do so owing to a further advance of the malady, the effect of phosphorus is relatively brilliant. Such immediate results can not, of course, be expected when the musculature is not sufficient to support the body, but even here the effect may be seen in greater activity. On delayed dentition it has also naturally a less certain, but frequently favorable, influence.

Reasonably prompt in its action on the nervous system and in restoring the use of the limbs, its effects on the osseous system are necessarily slower and less readily detected. Bone deformities, though checked, remain or are but slowly affected in part. To this latter fact more than to any thing else I believe the skepticism concerning the efficiency of phosphorus to be due, for the rapidity of its action on different tissues and structures can not inevitably be the same and it is also difficult to differentiate its effects from those of other measures used coincidently. My use of phosphorus with small quantities of cod liver oil opens, I am aware, an avenue for discussion, but the results in equally suitable cases have not been so prompt with cod liver oil alone. Out of several hundred cases in which I have used the combination of phosphorus and cod liver oil I can recall but two in which I suspected that it was not well borne. It is suitable for administration during the moderate or cold months of the year, but during the hot summer months or during an intercurrent attack of diarrhea its use, following the customary rule for all cod liver oil preparations, is suspended and the phosphates of iron and calcium are substituted.

Children with evident rachitis who are not under any antirachitic treatment may be found in most children's hospitals. I have been surprised to find how often rachitic evidences are passed over by hospital internes and also how frequently, when recognized, they receive no special treatment. This leads me to feel that their medical instruction concerning rickets has been such as to make them look on it as a condition by itself, with a well-developed symptom-complex which requires treatment only in its severer forms, but is negligible when its manifestations are but moderate, or when they are overshadowed by some more acute affection. This attitude of the hospital interne is probably fairly representative of recent graduates in general.

Much more attention than formerly is now given to the maintenance of well-balanced nutrition in the subjects of artificial feeding, with the purpose of avoiding the incidental starvation of particular structures, and, conversely, when such deficiencies are discovered measures are at once adopted for their correction. Of these the rachitic tendency is one of the commonest and its correction the most important on account of its possible dangers.

I would urge the necessity of an earlier recognition of rachitis, call attention again to the dangers with which it menaces the child and to the immediate importance of instituting special dietetic measures, and ask for a further consideration of the special value of phosphorus in cutting short the active and progressive stage of the disease.

DISCUSSION.

DR. A. W. FAIRBANKS, Boston, asked Dr. Southworth to what he attributes the inability of these children to walk; whether to muscular weakness, ligamentary relaxation, or to bone weakness. And, whether he considers that organic phosphorus has any advantage over the inorganic form in the treatment of these children.

DR. J. C. COOK, Chicago, believed that in the present state of knowledge of rickets, and in the frequency with which it occurs, physicians are liable to neglect other defects and find themselves in the state they were in 10 or 15 years ago with the teething children; in other words, dub every child rachitic that fails to walk, talk or produce teeth at the proper age. Dr. Southworth, he said, stated that rickets at five months was the earliest period at which the disease occurs. Dr. Cook has seen two children born, or has seen them within a few hours after birth, with well-marked rachitic rosary and laryngismus stridulus. He protested that so many of the spinal paralysis cases are liable to be neglected in the rachitic diagnosis, satisfying oneself that rickets exists, and that nothing else probably does. As stated by the author, the cause of rickets is ordinarily the food supply. Dr. Cook's experience has been that the food supply, while it may predominate, is not the sole cause. At a clinic attended by many colored and Italian children, he has seen many cases of rachitis, and from observation he is inclined to the belief that it is much more frequently a matter of hygiene than has been thought. Namely, a nursing baby, with the milk apparently normal as to laboratory findings, will frequently be found rachitic. It is not the artificially fed children only. The treatment of these children is getting them out of doors, and giving them orange juice. He claimed that if Dr. Southworth, instead of giving the children cod liver oil in the summer time, would put them out of doors, he will get quite as good or better results.

DR. J. L. MORSE, Boston, Mass., agreed with Dr. Southworth as to the frequency of rickets. Some years ago he studied nearly 400 consecutive babies in the out-patient department at the Infants' Hospital in Boston, and found bony signs of rickets in 80 per cent. Rickets, he said, is not as common as this in private practice, but he believes that 50 per cent. of the babies seen in private practice show bony signs of rickets. The only pathognomonic signs of rickets, in his opinion, are the skeletal. While there are other signs of rickets, one can not be sure that they are due to rickets, and not to something else, unless the bony signs are present also.

Dr. Morse believed that Dr. Southworth was claiming too much when he said that indigestion and many nervous symptoms are due to rickets. In many cases they undoubtedly are due to rickets, but in other cases they certainly are not. It is far more likely, he said, that indigestion is the cause of rickets, than that rickets is the cause of indigestion. Head nodding, convulsions and so on, merely show an irritable nervous system, which may or may not be due to rickets. Dr. Morse agreed with Dr. Southworth that in all probability unhygienic surroundings have almost as much to do with the etiology of rickets as has improper food. Rickets, in his experience, is more likely to occur in those taking a food low in fat and containing an excess of carbohydrates. This is one of the diseases in which, in his opinion, the much-abused proteids are not at fault.

He disagreed entirely, however, as to the presence of tenderness of rickets. Dr. Southworth said that he has seen the tenderness of rickets cured by orange juice. Dr. Morse believes that the tenderness was not due to rickets but to a complicating scurvy so mild that no other signs were present. Dr. Southworth also spoke of adding the white of one egg to the food in order to increase the amount of proteid. The white of one egg, however, is equal to but 12 calories. This amount

V 50
1908

is contained in one tablespoonful of cow's milk. As to treatment, Dr. Morse agreed with Dr. Cook that the best thing is to put the patients out of doors. Next to that it is necessary to feed them properly. The food to be given is that best fitted for the individual infant, with possibly an excess of fat. He has given children phosphorus until he has feared that they would light if rubbed too hard, without having seen the slightest benefit. He thinks it is the other things which are done, and not the phosphorus, which makes them gain.

DR. I. A. ABT, Chicago, thought that the teaching promulgated for many years that rickets is due to an excess of fats, has created a wrong impression as to the etiology. While rickets may, under some circumstances, be due to an excess of fat, his own conception from cases he has seen, is that it is due to a general toxemia, a chemical poisoning, produced by faulty metabolism. Perhaps, he said, the food ingested produces toxic products, which when in excess cause various bone symptoms, perhaps at times bone tenderness. Babies have pain; they are restless; cry; do not sleep, and Dr. Abt believes that this is frequently due to pain and bone tenderness. He believes also that rickets may be congenital. He has seen and read in the literature, of cases where children were born with cranial tabes, and where from the first day of life rickets became manifest. In a large number of these cases cranial tabes was definitely established, so that in certain families rickets is congenital. For instance, he thought that a study of Italian children would usually reveal congenital rickets. As to treatment, he agreed with Dr. Southworth, though he believes one mistake made is that physicians do not begin sufficiently early to feed something more than milk. Many of these children with rachitic tendencies may be given, at 7 or 8 or 9 months of age, animal broth, broths with vegetables boiled in, well salted. Dr. Abt believes that beef broth prepared in this way is antirachitic.

DR. C. G. KERLEY, New York City, believes that rickets is a nutritional disorder due to defective feeding or defective assimilation. If it were an infection, it would be peculiar that just as soon as these children are fed properly and placed under proper hygienic conditions, they improve rapidly. Being then a nutritional disorder, the line of treatment is suggested by the nature of the disease. A high proteid diet, he said, answers best in those cases. In those under 1 year of age good cow's milk and oatmeal gruel have served him well. After the first year, milk, meat, eggs and gruels made from dried legumes have been entirely satisfactory. Of course, these substances need not form the diet exclusively, but they should form a large part of it. As to the value of cod liver oil, Dr. Kerley agreed with Dr. Southworth. The beneficial effects following the use of phosphorus he is inclined to doubt. Early in his professional life, he used it a great deal. One of his assistants, several years ago, suggested that they treat every other rachitic case with phosphorus. Careful observation of these patients, by weighing and measuring, showed that those which did not get phosphorus did as well as those which received it. The tenderness of rickets and the absence of typical signs, he looks on as incipient scurvy. Often times when these cases are given orange juice, they improve at once.

DR. E. W. GOODENOUGH, Waterbury, Conn., said that inasmuch as there may exist causes of faulty nutrition in the uterus as well as after birth, there is no reason why there may not be rachitis at birth. As far as his experience goes, rachitis does not show itself until children are old enough to have indigestion and, as a result, faulty metabolism. A large number of children who are breast fed are fed by people who are not clean. Every time the baby cries, the mother gives the child the breast; fed frequently when well, if sick these children are fed more often, thus increasing their indigestion and giving them every opportunity to have autointoxication and resultant faulty metabolism.

DR. L. T. ROYSTER, Norfolk, Va., about ten years ago was interne in the New York Infant Asylum, when he observed almost exclusively white cases of rickets. At present he sees only negroes. Every case that he saw in New York came in from very poor surroundings. It was a well-recognized fact that those children could not get well at the Sixty-first street branch, and they were sent to Mount Vernon, where they got fresh air. As to the negro in the South, those children are frequently not weaned until 15 months old and eat ham and cabbage, or anything they desire. Dr. Royster has seen many cases of rickets in children breast fed by healthy mothers, and he sees many children fed on ham and cabbage at 6 months who have no rickets. But, he said, back of it all there unquestionably is the standpoint of hygiene, and the nutrition of the mother. It is an inheritance of unhygienic surroundings. Since the negro has been a free being he has not taken care of himself or his offspring. Any child that has a fever must be shut up in a room with a temperature higher than the child's temperature. It is a sin to open the windows and let in a little air. As to the matter of inheritance, the inheritance of superstition is paramount, and until that can be eradicated from the human mind, rickets will not be cured. A combination of cod liver oil and fresh air in his practice works wonders.

DR. R. B. GILBERT, Louisville, Ky., believed that rickets is esentially a disease in which there is a deficiency of lime salts out of which the child gets bone and teeth. An early symptom is sweating and profuse urination. It ought to be recognized early. A mother who indulges freely in acid food, and who has the attendant fermentation in her stomach, gives her child milk that is acid, and the infant will soon become rachitic. Acid fermentation in the stomach of a bottle-fed baby is the same thing. As to the hereditary theory, Dr. Gilbert believes that there can be nothing in it. He has knowledge of two or three adults who had rickets in their childhood and were hunchbacks, and who have children who are normal. It means better hygiene, better assimilation of food, plus a better supply of lime salts to the bone. Heredity, he said, can be explained simply by a continuation of bad hygienic surroundings from one generation to the other. In his clinic there is a majority of the colored element and there is much rickets among them. He does not believe in the treatment by phosphorus in minute doses. He has tried it without any effect. As for orange juice, that is beneficial only in cases of scorbutus.

DR. G. H. CATTERMOLE, Boulder, Colo., said that in Colorado the cases of rickets improve when the diet is sufficient and of a suitable kind. The patients usually seen are the children of Italian miners, but they are also found among the well-to-do. So far as he has had an opportunity to observe, frequent pregnancies are a predisposing factor.

DR. T. S. SOUTHWORTH, New York City, answering Dr. Fairbanks' question, why these children did not walk, said he did not know. The rachitic process influences various structures in the body, not the bones alone, but the ligaments and muscles as well. As to the use of organic and inorganic preparations of phosphorus, he thinks that the use of phosphorus contained in the officinal oil of phosphorus is better than the use of it in chemical combination. It will, he said, cut short the acute symptoms of rickets more rapidly than other measures alone. He suggested that if some of those who have not had success with phosphorus, will give it careful use with that end in view, they will get a more favorable impression. He has seen rickets at three months. Of course, he said, the congenital cases have been recognized.

Hygienic measures he did not emphasize so much, because we all recognize that change of hygiene is often necessary. Dr. Morse, he said, misunderstood him if he thinks that he (Southworth) considers chronic indigestion to be a pathognomonic indication of rickets, without any other signs. He simply referred to the chronic indigestion which is so common an accompaniment, and part of the picture of advanced rickets. As to the tenderness of rickets, whether it is of scorbutic origin, that also is a mooted point. Certainly there are rachitic children who cry when approached and who show tenderness, but do not show any scorbutic stigmata when examined. Whether they would, if neglected for a longer time, show evidences of scorbutus, he did not know, but he doubted it. Dr. Southworth believes that the white of an egg daily in the food is useful. By stating the value of a food in calories not all is said. There must be assimilation of a sufficient amount of lime salts. Of course, there is almost too much lime in cow's milk, but the difficulty is to get that lime assimilated properly.

FALSE STATEMENTS CONCERNING CAUSES OF ORAL PATHOLOGY.*

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To state a cause of a diseased condition, without the conclusion being formulated by logical reasoning, which should always accompany clinical inquiry, is misleading. When such a statement appears in a journal devoted to scientific thought it is likely to be accepted as authority, especially if the statement emanates from one supposed to have made a study of the etiology of disease within the region referred to in the opinion expressed.

Ability to recognize causes and defend the part they take in producing effects is proportional to knowledge acquired by study and observation. The process of reasoning is the distinguishing of truth from falsehood, the deducing from evidence an understanding of a proposition. To express with exactness is to comprehend in its fulness.

A pathologic condition is an effect; a comprehension of its causes is a result of an appreciation of phenomena associated with the region affected. Pathology has its basis in physiology and physiology its foundation in anatomy. To comprehend the anatomy of the animal machine we must take it apart, analyze it, and recognize the construction of the parts by the harmony of their association. All those agents or influences capable of deranging either directly or indirectly the structure or functions of the machine are causes of pathologic conditions, and their study as producers of such is technically known as etiology. In the pursuit of the study it is essential, in order to appreciate the influences that operate to weaken or alter structural arrangement and prevent normal function, to have in mind the construction and function of the machine in health.

To assume a cause may be necessary in the absence of sufficient knowledge to immediately express a decision, and is legitimate in pursuing the investigation into that which is obscure. The assumption then is a working hypothesis and should be supported by demonstrated facts associated with something analogous to that under discussion. In the realm of abstract thought a discussion may thus be conducted and an opinion formed whereby one may be guided in his action. In diagnosing and the pursuit of knowledge as to causes of disease the unknown may become more intelligently understood by such a course of reasoning.

The hearsay of the ignorant may be proven when submitted to analysis. To say an inflamed dental pulp is a cause of pain in the ear may be assumed, but it requires a familiarity of the distribution of the fifth pair of nerves, the indeterminate character of impulses conveyed to the brain, which are so often symptomatic of pulpitis, and the finding of an inflamed pulp to warrant an opinion and institute treatment.

A PRESUMPTIVE STATEMENT.

In THE JOURNAL of the American Medical Association May 19, 1906, page 1516, appears this sentence: "The practice of dentists of covering teeth with crowns of metal is one of the most frequent causes of sinus affection." This sentence is a part of an article on "The Nasal Accessory Sinuses" by Emil Mayer, M.D., Adjunct Attending Laryngologist to Mount Sinai Hospital, Chief of Clinic, Ear and Throat Department of the Mount Sinai Hospital Dispensary, New York. Read before the Metropolitan Medical Society, New York City, March 27, 1906, and is to be found in the division of the article, "Etiology of Sinus Affection."

It is a regret that no published discussion of the article followed, as it would have been of interest to learn the impression such a condemnation of a useful, comfort-giving prosthetic treatment had on the hearers.

Is this statement worthy to be discussed before this section? No; so far as the intelligent understanding of sinus affections and the rôle diseased teeth take in producing it, are appreciated by those in attendance. If there were no other reasons, we might smile and let it pass. But what impression has it made on the minds of those wishing enlightenment on the etiology of sinus affections who are not familiar with the worth the practice of stomatology has won in benefiting human kind? This and the reflection it has on our prosthetic treatment are the most vital reasons for presenting a rebuttal to such presumption.

The covering of teeth with metal crowns a cause of sinus affection! How? What kind of metal, gold or platinum, as each is used? Porcelain does not appear to have such an effect, in the opinion of the writer of the paper, though many roots are more frequently crowned with porcelain than with metal by the ethically-inclined practitioner, and often crowns of teeth with defective enamel are covered with porcelain. But it is a crown of metal we are to deal with, though it is not specified whether as a cause it is direct or indirect.

Presuming, as a working hypothesis, that a metal covering is a cause of sinus affection, how can it by logical reasoning be demonstrated? Perhaps the roots of a superior molar were found to extend into a sinus that was in an empyematous condition, a glance into the mouth revealing said molar covered with metal. Eureka! It is the metal covering causing the trouble. One is reminded of a student who accompanied his preceptor on the visitation of patients and was impressed with the keen observation and logic of the experienced doctor when a patient was told, without any apparent information being given, that he should not again eat oysters during his indisposition. The student being somewhat perplexed as to how the knowledge was obtained, on leaving the sickroom asked how it was known that the bivalves had been indulged in, and received the reply: "I saw the shells under the bed." On a subsequent day the student was sent to see and report the condition of the sick one, and returned with the startling information that the patient had eaten a horse, as there was a saddle and bridle under the bed.

ANATOMIC RELATIONSHIP.

In reviewing the relation of the teeth to the maxillary sinus we are reminded that the floor of the sinus is situated over the superior molar and premolar teeth and may descend between their roots; it is lined with a mucoperiosteum covered with ciliated epithelium, and the bone forming it is cancellous in character. The roots of the superior teeth are situated within the cancellous portion of the maxillary bone and often extend so far upward as to form the uneven outline on the floor of the antrum. The wall between the apices of the teeth and sinus is in some cases exceedingly thin, and in rare cases is absent, leaving only the mucoperiosteum covering over the end of the roots as they extend into the antrum.

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

V 50
1908

A tooth consists of a pulp, dentine enamel and pericemental membrane. The pulp is the formative organ of the dentine and, after that function is fulfilled, is the medium of furnishing nutriment to that tissue. It is situated within a chamber in the central portion of the teeth, and in shape somewhat resembles the tooth it is related to. It is formed of loose connective tissue and cells, blood vessels and nerves, the last two entering the organ at the apex of the tooth.

The dentine is a hard, transparent substance composed of an organic matrix impregnated with calcareous salts; through this matrix radiates tubuli from the central cavity containing a soft fibril, which take their origin from the cells of the pulp lying next to the dentine.

The enamel is a hard substance investing the crown portion of the tooth. It is the hardest tissue found in the animal body, is low in organic constituents, and may be said to be a coat of mail for the protection of the tooth. The cementum in the human tooth is an investment for the roots and resembles bone in histologic character, and it is covered with the pericemental membrane which unites the root with its alveolus.

PATHOLOGIC CONSIDERATION OF THE TEETH.

The pulp and the condition of the pulp chamber is of importance in considering the treatment of the teeth, whether it be for the simple operation of filling for the arrest of caries, the placing of an artificial crown on a root, or covering the dentine with metal or porcelain as a substitute for the coat of mail.

If by a blow or the encroachment of caries of the dentine the vital force of the pulp is so reduced that it succumbs and gives up its life, fermentation and decomposition, with the concomitant phenomena that obtain after death in tissue of like endowment, follow.

The process is an analytic one, taking place through the agency of micro-organisms terminating in the production of poisonous ptomains, and if no interference is prescribed the peridental membrane becomes inflamed, pus is formed and a pathologic condition known as alveolar dental abscess is presented.

During the progressive stages more or less of the poisonous products are absorbed by the dentine and cancellated bony structure and perhaps the mucoperiosteum of the floor of the antrum become affected should the apices of the roots of the affected tooth extend close or into the sinus.

MALPRACTICE.

If a tooth containing a devitalized pulp be filled or crowned without converting the poisonous mass within the pulp chamber into non-poisonous and harmless matter, the removal of the same and the filling of the chamber to the apical foramen the diseased condition will not be abated but aggravated, and a condition established more severe and dangerous than the former. Such practice, however, is not dentistry, and he who resorts to such methods is unworthy of being called a dentist. The placing of the filling or crown is an act of ignorance or indifference to the necessity of a return to normality before substituting an artificial part, and is as wrong as to charge a syringe with water impregnated with cadaverin and putrescin and inject it into the tissues. The practice of covering teeth with metal covering during a condition that is possible to pass into a pathologic one of greater magnitude is as deserving of condemnation as the removal of the vermiform appendix without preparing the field of operation, and proceeding with the operation with indifference to antiseptic and aseptic methods, or the placing of an artificial limb on a gangrenous stump and expecting the limb to perform its function with comfort and without interference to the process of repair.

OTHER STATEMENTS FALSE IN THEIR APPLICATION TO DENTISTRY.

Dentistry has often been brought in contact with statements from general practitioners of medicine that are reflections on the science and art that constitute it. The devitalizing of pulps with arsenic trioxid, the use of amalgam for filling cavities produced by caries, have been condemned without reasoning or obtaining data from those learned in pathology of the teeth and other tissues of the oral cavity and the therapeutic properties of drugs and material employed in treating diseases which are within the province of dental practice.

We have heard of late that the substituting of lost teeth by a bridge is a menace to the health of the individual wearing such. With but a limited knowledge of oral prophylaxis one can observe that many bridges and crowns worn in the mouth should be relegated to the scrap pile and the patient be the better for it. It can also be observed that bridge work and crowns placed in the mouth after proper preparation of the tissue they rest on, are helpful adjuncts in maintaining hygienic, oral condition, and instead of being a menace to the general health, are serving useful assistance in aiding digestion and promoting health. To thousands of individuals who would be obliged to relinquish social and professional duties "they are lengthening out the enjoyable period of human existence."

DISCRIMINATION.

Let there be a discrimination between true surgery of the teeth and their associated parts that appreciates and comprehends the antiseptic and aseptic treatment that antedates and accompanies the art of repair and the commercial practice that passes by those fundamentals. We are specialists and our work approximates the work of other specialists, that of the laryngologist and rhinologist in no small degree, and all who would familiarize themselves with their own specialties should appreciate that of others and work in unison and diffuse knowledge that will be helpful. Insinuation and false statements but divert the sympathetic harmony, while unity of thought and study will divide the ethical from the commercial in all.

DISCUSSION.

DR. FRANCIS A. FAUGHT, Philadelphia, referred to erroneous statements apparently coming from authentic sources and appearing in scientific journals, exploiting proprietary drugs and obscure preparations which appear quite profusely in the dental magazines, but which, of course, do occur and have occurred more frequently previously in medical journals. He mentioned, particularly, antikamnia, which is advertised in reputable journals, although it has been absolutely condemned by the Council on Pharmacy and Chemistry of the American Medical Association: Also Campho-phenique, a preparation which has been advertised as containing certain ingredients in certain proportions, but which has been found by analysis to have an entirely different composition. Tyree's Antiseptic Powder is advertised extensively among dentists and has been given testimonials by dentists. This has been analyzed by the Council on Pharmacy and Chemistry and shown not to be as advertised, both as to the claims made as to its composition and the effects to be derived from its use. Dr. Faught stated that there are many reputable preparations about which little is known, and many combinations which dentists and physicians might make themselves if they were

better versed in therapeutics and materia medica. Where they can use preparations of their own combining from pharmacopeial drugs, they should do so, in preference to purchasing any proprietary preparation, no matter how ethical, and especially those preparations which have been shown to be practically fakes.

The Council on Pharmacy and Chemistry, Dr. Faught continued, examines remedies which have been advertised to the profession, and somewhat to the laity, and for which claims have been made that they contain certain percentages of certain substances combined in certain ways, etc. The Council is made up of physicians and pharmacists. It is not a work for which the members are paid, but a labor of love, and their stamp of approval on a preparation should certainly give it at least preference in practice, as compared with something which they have shown by their examination of samples purchased in the open market, to be false; in other words, to contain substances which have not been advertised or to contain substances in proportions not as advertised. Dr. Faught said that in addition to the three preparations he mentioned there are others which have been shown to be nothing like the descriptions of the preparations put on the market to sell to the laity and the dentist. He urged dentists to give their patients the benefit of the doubt and prescribe ethical preparations or write prescriptions of preparations of their own combining, and not the preparations advertised by manufacturers who are manufacturing for profit solely.

DR. V. A. LATHAM, Chicago, expressed her belief in the mechanical side of the profession, but stated that it should be applied with an anatomic reason. Without considerable work on the condition of parts and teeth, it follows that it is exceedingly difficult to maintain a bridge satisfactorily on its posts. Again, the cleaning of a bridge is a very hard piece of work, in view of some of the positions in which bridges are placed. Few patients wearing bridges have mouths that are not much more disgusting than they otherwise would be, and Dr. Latham can not but feel that for people to wear so many mechanical devices is bad hygiene. Therefore, the greatest blessing is preventive dentistry.

DR. JAMES TRUMAN, Philadelphia, said that he understood Dr. Luckie to quote some one as having stated that the crowning of the molar teeth of the upper jaw is likely to produce abscess in the antrum. Why should it not, he asked, produce it? If there is one pathological condition to which dentists, as a rule, pay no attention, it is the fact that they can not interfere with the proplasmic contents of the tubes, exposing the contents of those tubes to thermal irritation, without causing the death of the pulp. This operation of crowning is done every day. If it extends to the removal of the enamel, and this is liable to occur, the result will be, necessarily, the destruction of the pulp which, through inflammation, may produce peridental inflammation, and peridental inflammation results in abscess, and thus the whole cycle of inflammation is presented, eventually resulting in abscess in the antrum. Dr. Truman was surprised that Dr. Luckie should take the position that the quotation is incorrect. The pathologic conditions that follow many of these operations are to-day among the most important matters that ought, in his judgment, to be considered in any dental association. The average dental operator is working on cases every day in practice, without a particle of regard for the sequelæ that may result. He will place a band on the peridental membrane and force it down until he produces irritation. The pain that follows will gradually subside. He will dismiss the patient, and in the course of a few months, or at most a year or two, the peridental membrane is destroyed, necrosis of the cemental tissue takes place and death of the tooth follows. The pathologic result is not an uncommon occurrence. It is liable to occur in any mouth treated for crowns or bridges.

The dictum that went from Chicago some years ago, of extension for prevention, Dr. Truman regards as another one of those fallacious ideas that dentists should consider seriously. The idea of cutting down an approximate surface of a tooth below the free gum margin, and expecting that this will subserve the interest of that tooth, is all wrong, he said. Dr. Truman does not condemn all these so-called progressive changes in dentistry, neither does he condemn the crown or the bridge; but he wanted to impress on those who perform these operations that they must always remember the possible pathologic conditions that may follow work on the sensitive portions of the human organism, and that if this is not done, then dentistry will fail to the extent of the lack of judgment manifested.

DR. M. I. SCHAMBERG, New York City, believed, with Dr. Truman, that a just regard must be had for the pathologic conditions that arise from the insertion of crowns under adverse conditions; but to allude to a gold crown on a tooth as a cause of antral empyema, he considered misleading to the medical profession and the lay public, who would regard all crown and bridge work as a practice to be condemned. For that reason Dr. Schamberg agreed with Dr. Luckie that it is well, from time to time, to hold in check investigators who jump hastily at conclusions, and off-hand make the statement that antral empyema is the result of the insertion in the mouth of gold crowns. The same condition would arise with the insertion of too large a gold filling impinging on the gum or allowing a sick pulp to remain in the tooth.

DR. H. C. REGISTER, Philadelphia, asked whether the tooth referred to was a vital one or a devitalized one. He understood how a metal crown placed on a vital tooth can, through thermal and chemical influences, cause it to be devitalized, which would probably, as Dr. Truman explained, terminate in abscess of the antrum.

DR. GEORGE V. I. BROWN, Milwaukee, Wis., emphasized the danger of hasty diagnosis with regard to empyema of the maxillary sinus, because, he said, it is an exceedingly difficult matter to decide this doubt of a known pathologic condition of the teeth in connection with the maxillary sinus. Of six patients he operated on, two had histories directly connecting the trouble with diseased molars. As a matter of fact, when those antrums were thoroughly opened up, it was very evident that in each of those cases the tooth condition was merely coincident. The real trouble was disease coming from the nose. Dr. Brown emphasized that of the small percentage of cases of empyema in antra coming from some condition of the teeth, the dentists are responsible for the empyema.

DR. F. I. FOSSUME, New York City, presented the case of a man, about 60 years of age, who complained of a pain on the left side of his face, especially marked at night. His family physician, who had first been consulted, sent him to a rhinologist, who treated the posterior part of his nares. There was considerable discharge from the nose. The last molar tooth being particularly sensitive to concussion, however, the patient consulted Dr. Fossume, who tested the molar and found it normal. He then had a radiograph made; this demonstrated a small tooth root located immediately in front of the sensitive tooth, which had remained *in situ* for fifteen years. The root piece was removed, and as it encroached on the antrum, this was opened in its extraction, a free pus flow ensuing from the maxillary antrum. The antrum was treated in the usual way, and, the case responding to treatment, healed in three weeks.

DR. S. B. LUCKIE, Chester, Pa., stated that the point he wished to make was not the placing of the crown on the tooth, but the unscientific manner in which it was done, the lack of discrimination in putting it there, that caused the disease. It is not placing the bands on the teeth, but driving them against the peridental membrane that produces inflammation, a lack of care in preparing for the operation.

With reference to the use of proprietary preparations, Dr. Luckie suggested the appointment by the section of a Committee on Pharmacology. Dentists could then find out all about the cements and whether they contain anything that would be hurtful, and what tooth powders and preparations that are used in pulp canals are composed of without taking the word of the maker. Tyree's Antiseptic Powder, he said, is not what it has been advertised to be; and the same criticism may be made of campho-phenique and other preparations. There should be some way of selecting those proprietary articles that are scientific preparations and which can be used with safety.

V 50
1908

THE SIGNIFICANCE OF CHANGES IN THE OPTIC NERVE IN CERTAIN AFFECTIONS OF THE CEREBROSPINAL SYSTEM*

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When I was requested by your secretary to read a paper before this Section it occurred to me that it might be a fitting opportunity to familiarize neurologists with the classification of diseases of the optic nerve as used by ophthalmologists, and to attempt to elucidate, in a measure, the significance of changes in these structures in connection with diseases of the central nervous system. It may seem, perhaps, that such an exposition is unnecessary, in view of all that has been said and written on ophthalmic neurology, but experience has taught that even in this well-traveled path there is still a lack of perfect understanding between ophthalmologists and neurologists.

This has arisen in a large part, perhaps, by reason of the uncertainty which exists at times in the mind of the ophthalmologist when he is requested by the neurologist to render a report on any given case. He is aware that something definite is demanded of him and that his testimony is often awaited as corroborative evidence in the diagnosis of some obscure lesion, and yet it frequently happens that he does not feel able to pronounce with certainty that a nerve is actually inflamed or to discriminate between a primary or a consecutive atrophy. Indeed, a direct answer to these questions is often impossible. Even the physiologic variations in the appearance of the nerve are very great, and many times an inflammation or an atrophy may be simulated by what is in reality only a likeness to these conditions. When dealing with such uncertainties, therefore, the ophthalmologist often feels unable to do more than describe to the neurologist what he sees and, without attempting any positive diagnosis of the conditions with which he is confronted, permits the neurologist to draw his own deductions from the findings which are reported to him.

Then, too, ophthalmologists are not wholly united in their classification of diseases of the optic nerve, and the employment of terminologies, which are often different, render the clear conception of the entire subject of inflammation and atrophy confusing and difficult of comprehension. Koenigshofer, following the fundamental division which is adopted in describing diseases of the spinal cord, has recently proposed a classification according as the inflammation of the nerve presents a focal or more generalized lesion. Thus under the focal or transverse form are included all varieties of inflammation of the nerve, those originating from the sheath and from the interstitial tissue as well, which traverse its entire cross section and spread longitudinally as well as transversely. Under the generalized group, on the other hand, are collected those processes which show themselves from the first as definite defects in the visual field, as, for example, involvement of the papillo-macular bundle, with well-defined central scotoma. Lesions in the nerve included in the first group follow infectious processes, those in the second, intoxication and nutritional processes.

The classification which has been adopted by most ophthalmologists, however, and the one which will be followed in this paper, is based on the location of the inflammation according to its site in the axis of the nerve, the term "papillitis" being used to designate all forms of inflammation which affect the head of the nerve and produce visible ophthalmoscopic changes, while involvement of the nerve in its deeper portion is described by the terms "descending" and "retrobulbar" neuritis; as frequently in the early stages of these latter types there is no ophthalmoscopic evidence of the inflammation, its existence must be determined by other means.

Although this division of optic neuritis was made by von Graefe, subsequent investigations have shown that there is no pathologic evidence to support such a base of distinction, for both papillitis and descending neuritis continually merge into each other, and even clinically, as Gowers demonstrated many years ago, the aspect of the disc may assume at one time the characteristics of descending neuritis and at another those of papillitis.

In true papillitis, however, the swelling of the disc is very great, and while in the early stages the veins less frequently present dilatations than in neuritis from meningitis, the retinal vessels become later greatly dilated and tortuous, especially the veins. Hemorrhages and extravasations into the retina are not uncommon. In descending neuritis, on the other hand, the swelling of the papilla is never very pronounced and there is a disposition for the inflammation to spread to the adjacent retina. The changes in the disc, too, are often most intense at the periphery, the center being but slightly involved. Hemorrhages and extravasations are not uncommon, and the vessels are not kinked as they pass over the edges of the nerve, as is so often the case in intense degrees of neuritis. When the swelling of the nerve in papillitis assumes a height of 2 D. or more the arbitrary expression of choked disc is assigned to it, and the term neuroretinitis is given to those cases in which the inflammation of the nerve has extended so as to involve rather a large area of retina.

It is unnecessary to dwell here on the significance of the relation which choked disc bears to brain tumors, as that phase of the subject has already been largely discussed elsewhere, nor, indeed, need further reference be made to descending neuritis other than to remark that it is chiefly observed in children, where it is usually caused by acute and chronic meningitis, by tubercle of the brain and by hydrocephalus. Deformities of the skull also, particularly peaked skull, may sometimes give rise to this form of neuritis. Attention must, however, be called to spurious optic neuritis, for, as a consequence of a congenital peculiarity of the optic papilla, healthy nerves at times may exhibit the signs of neuritis. Vision in these cases, however, is normal, and no further change is manifested even after years of observation. Lesser degrees of swelling, though occasioned by hyperemia, are seen in hypermetropic eyes, in commencing toxic retrobulbar neuritis and in various types of chronic insanity. This appearance of the nerve is designated as simple congestion and is indicative of a stasis in its circulation. From a diagnostic standpoint both spurious optic neuritis and simple congestion are especially significant when the changes are notably greater in one eye than the other.

To the two main divisions of inflammation of the optic nerve must be added retrobulbar neuritis, which may be regarded as a mixed condition of interstitial inflammation of the nerve with atrophy. In this variety of neuritis there are at first either no ophthalmoscopic signs or merely those of simple congestion. Later,

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

after the disease has subsided, signs of atrophy usually make their appearance. Samelsohn, in 1882, discovered that hyperplasia of the connective tissue around the papillo-macular bundle, with a consecutive atrophy of the same, constituted the principal pathologic factor of retrobulbar neuritis. Ten years later, however, Sachs disproved the participation of the connective tissue and regarded the disease as a primary atrophy of the nervous fibers. In 1896 Nuel again changed the views regarding the pathology of this condition, demonstrating that the central scotoma observed in these cases is due to atrophy of the cells of the ganglionic layer of the macula and that the affection of the optic nerve is secondary. This theory is still held by many, though others believe the disease to be dependent on nutritive disorders, due to primary alterations of the blood vessels.

Retrobulbar neuritis may occur in either an acute or chronic form. In the former, which is induced usually by gout, syphilis or sinusitis, there is rapid loss of sight with neuralgic pain in the temple. In the latter, on the other hand, the loss of sight is very gradual and there is but little pain. Although generally the result of the abuse of alcohol and tobacco and other toxic substances, chronic retrobulbar neuritis may be caused by disseminated sclerosis, the sclerosis attacking the nerve, as it attacks other parts of the nervous system, in the form of islands, in which the nerve elements may be interfered with or altogether destroyed. Gunn suggests that the atrophy of retrobulbar neuritis is due to wasting of the centrifugal fibers of the nerve which go from the basal ganglia to the retina, and thinks this is evidenced by the loss of the ability to appreciate differences in degrees of light, which is indicative of a diminution in the conducting power of the individual nerve fibers along which the light stimuli are transmitted.

Nyctalopia is a frequent symptom in this form of neuritis, the patient declaring that he sees better in a dim illumination, exposure to an excessive light leading to a deterioration in vision which may last for some time. As has been recently said, this symptom is presumably the result of an increased physiologic degeneration, such as may occur normally, but in the case of the axis-cylinders being illy nourished the process of regeneration is imperfect and the conducting function remains impaired until recovery is completed.

ATROPHY OF THE OPTIC NERVE.

Atrophy, like inflammation of the optic nerve, may occur under a variety of forms, though it is usually much simpler, ophthalmoscopically, to differentiate the various types of wasting than to discriminate between the different forms of inflammation of the nerve. On account of the physiologic variations in the color of the nerve-head, however, it is not always easy to state with certainty that atrophy of the nerve is actually present. Thus a certain degree of pallor of the nerve is usual in blondes, and is the rule in old people, in whom it is due to vascular changes quite independent of arteriosclerosis.

In these doubtful cases resource may be had to other measures to demonstrate the deficiency in the conductivity of the nerve, as by testing the visual acuity with Snellen letters, by the study of the visual field with the perimeter, and by the determination of the light sense, even slight and incipient diseases of the nerve may be made manifest and the suspicions of atrophy aroused by the ophthalmoscopic examination confirmed.

But perimetry must be exercised with great skill to be of value in these doubtful cases; for in incipient degrees of inflammation the conducting power of the fibers of the nerve is but slightly impaired, and the test object employed to ascertain the defects must be very minute and of neutral color. Holden's cards are of value in this test, as they serve admirably not only to detect scotoma and to determine the outlines of the visual field, but also to ascertain the light sense of the retina. Thus, to detect disturbances in the intermediate and central zone of the field, Holden employs a card with a 1 mm. black point on one side and a 15 mm. quadrant of light gray, having 4/5 of the intensity of the white, on the other. With a perimeter of 30 cm. radius the black point and gray patch are each seen by the normal eye: outward 45, upward 30, inward 35, downward 35. To detect peripheral defects a second card is employed, which has a 3 mm. black point on one side, and a darker gray patch having 3/5 the intensity of white on the other. Each should be seen in the perimeter at the following points: Outward 70, upward 45, inward 55 and downward 55.

The light sense, which may be defined as the power possessed by the retina or center of vision of appreciating variations in the intensity of the source of illumination, may also be tested with Bjerrum's type, which consists of gray letters on a white ground, which are constructed on the same principle as Snellen's types.

Defects in this sense are significant as indicating involvement of a considerable extent of the nerve, being present, for example, in cases of descending neuritis and absent in choked disc. The test is of especial significance in retrobulbar inflammation of the nerve without ophthalmoscopic signs, and in conjunction with the outlining of scotoma at the fixation point is sufficient to establish the seat of the inflammation in the nerve.

The value of perimetry in the diagnosis of cerebral lesions is well known, but the neurologist should insist that actual perimetry is practiced when he requests a study of the visual fields and should be satisfied with a no less accurate and detailed method. Rough tests with the hand or fragments of paper, while often sufficient to indicate in a general way the presence of hemianopsia, are always inaccurate and fail to detect defects in the perception of objects and color, like hemiachromatopsia and the various scotoma, which are often of greatest value in serving to indicate the seat of obscure cranial lesions.

By primary atrophy is meant that form of wasting of the nerve which is unattended by signs of previous inflammation. It is usually seen in association with diseases of the spinal cord and especially with locomotor ataxia, and is sometimes called gray degeneration of the optic nerve. Secondary atrophy is also a primary atrophy in the sense that it occurs without the signs of a previous neuritis, but as its etiology is different and its ophthalmoscopic appearance somewhat dissimilar, it is best described as a separate type. Consecutive, or as it is sometimes called, post-papillitic or post-inflammatory atrophy, follows a frank inflammation of the nerve and can be diagnosed from the two preceding varieties by the marks of a previous neuritis.

In primary atrophy the disc is gray or grayish-white; the scleral ring surrounding the nerve is broadened and the stippling in the lamina cribrosa is plainly visible. In this connection, however, it must be remarked that although this form of atrophy has been described as occurring without signs of previous inflammation, in the early stages of the degeneration the nerve sometimes as-

V 50
1908

sumes a dull red tint, due to a superficial overcapillarity, while the deeper portion of the nerve is gray and lacking in circulation. The retinal vessels are but little altered. In secondary atrophy the disc is usually whiter than in the foregoing and the retinal vessels are more or less contracted. In consecutive atrophy the disc is not only pallid but possesses also a bluish or greenish tint, from the connective tissue overgrowth resulting from the previous inflammation of the nerve. The head of the nerve is considerably shrunken and appears as though filled in by connective tissue, the excavation being veiled. Finally, the retinal vessels are much contracted, and if, as may be the case, the neuritis originating the atrophy was dependent on an inflammation of the inner coats of the eye, atrophic areas and heaps of pigment may be seen in the retina and chorioid adjacent to the disc.

These are the classified points of differentiation between the various types of atrophy; the observer, however, will be disappointed who expects to find them clearly outlined in all cases, for frequently there is a blending of the signs of two or even of a third type, which serves to confuse and render the diagnosis difficult.

Though the occurrence and significance of optic atrophy in association with tabes have been the subject of frequent consideration by neurologists, a recent observation by Gunn may not be without interest to you. This author says:

> In the spinal cord the tabetic degeneration seems to be selective, and the reflex collaterals are first affected, while in more advanced cases the other fibers of the posterior columns also become degenerated. In the optic nerve we likewise recognize different kinds of fibers, at least two, namely, those forming part of the visual path, and those conducting the stimulus which excites the reflex contraction of the pupil. Now, loss of this light reflex (the Argyll-Robertson phenomenon) is one of the earliest and most common of the symptoms of this kind of late syphilitic poisoning, though the actual fibers degenerated, whether in the nerve itself or in some possible connection between the nerve roots and the third nerve nucleus, have not been recognized. As I have suggested elsewhere,[1] there seems to be good reason for regarding these reflex fibers as probably collaterals from the visual fibers, and it is certainly suggestive that the first fibers, it may be, in mild stationary cases, the only fibers affected, are seemingly of very similar character in the optic nerve and spinal cord, being, I believe, reflex collaterals in both instances.

Gunn then states further that:

> There are several anatomic analogies between the optic nerves and the posterior spinal roots, in the disposition of their sheaths and in their minute structure, and it is not unreasonable to regard the ganglion of the root as performing a similar function as, though not strictly homologous with, the ganglion retinæ. It has been asserted, but by no means proved, that the chief incidence of the postsyphilitic toxin is on the ganglion cells of the posterior root ganglion; should this be so, it would be reasonable to assume that the ganglion retinæ is likewise first affected in the visual path, and that the fiber degeneration is secondary.

In addition to tabes, primary atrophy also occurs in general paralysis of the insane, in disseminated sclerosis and less commonly in lateral sclerosis.

Secondary atrophy is occasioned by pressure, as may be observed, for example, in constriction of the chiasm by an aneurism, or by the distended third ventricle; it may also follow lesions in the optic centers or fibers.

In addition to the causes of primary atrophy which have already been mentioned, it may be induced, as Bull has shown, by arteriosclerosis, the thickened vessels causing wasting at first by pressure, and later by proliferation of connective tissue between the new bundles. Such pressure may be exerted where the central artery enters the optic nerve or where the rigid carotid forces the nerve against the clinoid ligaments, and at other points. Arteriosclerosis may also occasion atrophy directly, by cutting off the blood supply to the nerve, the lumen of the vessels being closed by the thickening of the walls of the arteries.

Second attacks of neuritis in a disc which is completely atrophied are rare, but do occur, usually in cases of brain tumor, in association with symptoms of increase in the intracranial pressure.

1. Trans. Ophth. Soc., xx, 36.

DISCUSSION.

DR. HUGH T. PATRICK, Chicago, asked Dr. Posey to amplify his paper in one or two respects. In the first place, speaking of appearances which simulate choked disc, he would like to know whether Dr. Posey has seen the so-called adolescent or pseudo-choked disc, a condition he heard of a long time ago. In that case it was discovered accidentally or casually and greatly puzzled the physician in attendance. He took this patient to a consultant, who had seen the condition two or three times. A good many years after that Dr. Patrick saw a case of adolescent or pseudo-papillitis, which had the appearance of optic neuritis, without any causative lesions; it was entirely innocuous, and was not indicative of any trouble at all. The other point on which he asked Dr. Posey to amplify, is primary optic atrophy, not connected with any of the conditions mentioned, but an optic neuritis which comes on gradually, like that in connection with tabes, looks like it, but with the absence of all the other symptoms of tabes. He has seen a few cases, but has been unable to get very much enlightenment on this condition from ophthalmologists.

DR. H. M. THOMAS, Baltimore, Md., speaking of choked disc occurring in patients who have optic atrophy, referred to the patient on whom Dr. Cushing and he reported. There had been optic atrophy for four years, but on this there developed a distinct choked disc coincident with the greatly increased intracranial pressure caused by the large extradural hemorrhage which followed the first operation. After the pressure was relieved, this condition subsided.

DR. WILLIAM G. SPILLER, Philadelphia, asked Dr. Posey for his experience in regard to the shortest length of time in which he has known choked disc to disappear after the relief of intracranial pressure by operation; whether he has ever seen choked disc disappear within a few hours.

DR. WILLIAM CAMPBELL POSEY, Philadelphia, answered Dr. Patrick by saying that those cases mentioned by him may be included under those designated in the paper as cases of spurious optic neuritis, as a congenital or other condition.

DR. PATRICK stated that the condition he referred to appears about the age of adolescence, always coming on at that period and subsequently disappearing.

DR. POSEY was not familiar with that type of involvement of the nerve, because he thinks that under these circumstances it would have to be a wide involvement of the optic nerve trouble, which comes on about adolescence. That is not a normal condition, producing atrophy of the nerve, and the patient becomes blind. The pathologic condition of the nerve at adolescence attended with these without other symptoms, he is not familiar with. He thought that there is a primary atrophy, or an atrophy which is designated a primary atrophy in adults, unassociated with other signs in the nervous system, that is due probably, in the first instance, to arteriosclerosis, or later on the signs of arteriosclerosis may manifest themselves. Dr. Posey could not answer Dr. Spiller's question. He has only had an opportunity of studying two or three cases of operation on the brain for the relief of choked disc, but can not conceive of such a rapid subsidence. He believes that it would have to be some days or weeks before the swelling of the nerve lessened.

ROENTGEN RAY IN EPITHELIOMA.

REPORT OF A SERIES OF CASES TREATED MORE THAN THREE YEARS AGO.*

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No one doubts that epitheliomata can be healed with the *x*-rays. The statement, however, is frequently made that the results are not as permanent as when the lesions are radically destroyed by other methods of treatment. This is an important matter to settle, and we are now nearing the time when the permanency of the result can be established. I desire, therefore, to report the results in my series of epitheliomata treated with *x*-rays more than three years previous to July, 1907.

The number of cases is too large to recite each case in detail, but the results can be summarized quickly. The details of fifteen of the cases also are indicated by the photographs presented herewith, most of them in pairs, showing the original lesion and the result after three or more years. Lack of space prevents the publication of the photographs of about thirty additional cases. I have confined my consideration to epitheliomata. I have not included in my list epitheliomata which at the time of beginning treatment were complicated by demonstrable carcinoma in the neighboring glands. I have thus excluded a few hopeless cases of epithelioma of the penis with metastatic complications, and numerous cases of carcinoma of the neck following epithelioma about the face and mouth. I have, however, excluded no case in which glandular metastases developed after treatment was begun; fortunately I had no such accident. I have also not excluded any cases where the spread of the disease has been by continuity. The list, therefore, includes many hopeless cases in which there had been wide involvement of the orbit, other cases with deep destruction of the tissues of the face from the spread of lesions originally involving the nose only, and other extensive and very destructive cases. I may also say that in accepting the cases no effort was made at selection; the most hopeless cases have been treated regardless of a record whenever there was the remotest possibility of giving the patients any sort of benefit.

The total number of epitheliomata in this list which I treated with *x*-rays more than three years ago is 119. Of these cases I have been unable to obtain the subsequent histories of only eight; of these eight, five, I think, should have been successes and three failures, but, throwing the entire number out of consideration, it leaves 111 patients treated more than three years ago whose histories up to July of this year are known.

Of these 111 patients 80 either remain well to-day, have died without recurrence of epithelioma, or remained well more than three years after a healthy scar was produced, but can not now be located. As a matter of fact, 66 of these 80 patients were living with healthy scars in April last. Six were living without recurrence at least three years after they finished treatment. Eight of them are dead; two died from pneumonia, and one patient each from acute leukemia, apoplexy, nephritis, heart disease, acute bowel trouble, and carcinoma of the uterus, the last mentioned having symptoms before the treatment of the lesion on her face was begun. This patient died about a year after the lesion on her face healed, and she was the only one who died within a short time after the treatment of her epithelioma. Two other patients who are now dead lived from one and one-half to three and one-half years. Omitting these eight patients who died from other diseases, one patient has been well over six years, 11 patients are well over five years, 22 over four years, 32 over three years, and 6 were well more than three years after treatment, but whether they are now living I do not know.

The diagnosis in the cases is, I believe, beyond question. In all of my earlier cases the diagnosis was confirmed by microscopic examination. In the later cases microscopic examinations were made when there was any possible room for doubt. The unmistakable character of the lesions and the variety of the lesions treated are evident to the eye in almost all of the photographs shown. They varied from the most minute epitheliomata, about the size of a small pea, to lesions above the size of a hand. Many of the worst cases were primary as regards operation, but of the eighty successful cases forty-one were primary and thirty-nine were cases which had recurred after previous radical treatment, usually operation.

For the purpose of further analysis I have divided all of the cases into the following four groups: (1) Successful, 80 cases; (2) practically successful, 2 cases; (3) distinctly benefited, 17 cases; (4) failures, 12 cases; total, 111 cases.

PRACTICALLY SUCCESSFUL.

In the group of practically successful cases are included two cases. The first case was a large epithelioma of the shoulder.

This patient had had for twenty years a rodent ulcer, which at one time had reached an enormous extent, involving at least a square foot of the shoulder and back. Under persistent treatment, extending over years, in the hands of the most competent men, it had been reduced in size to about that of the palm of the hand, but it had never been healed. This was the first case that I treated with the *x*-rays, and the treatment was undertaken because the case was regarded as hopeless.

A symptomatic cure was obtained in May, 1901. Fifteen months after the disappearance of her epithelioma, this patient, a very old woman, received an injury from a fall from which she was compelled to go to bed, and in a few days died from pneumonia. At the time of her death there was no evidence of recurrence, except a point on her shoulder, which looked suspicious. I was able to obtain the skin from this shoulder, and it showed healthy scar tissue, except at this suspicious point, where I found an epitheliomatous mass the size of half a wheat grain. This could have been destroyed readily by *x*-rays or a caustic or other destructive agent.

The second case was epithelioma involving the entire concha and the outer half of the external auditory canal. A superficial ulceration, the size of a dime, has never disappeared in this case, and it is, I believe, an *x*-ray burn and not an epithelioma. It showed no tendency to grow when I last saw the patient a year ago. In this case the lesion had been converted into a trivial ulcer with no tendency to spread, and the improvement had persisted for over four years. This case also was an epithelioma recurrent after operation.

DISTINCTLY BENEFITED.

Seventeen cases are classed as having been distinctly benefited. The improvement in each of these cases consisted in checking the course of the disease for a year or more, except in the case of a man over 80, who died within the year, and in prolonging the patient's life, in comfort, for at least that length of time. Every one of the cases was an epithelioma which had re-

* Read before the Sixth International Dermatological Congress, New York, Sept. 9-14, 1907.

V 50
1908

curred after previous operation, and practically all were hopeless of other relief. Seven of these cases (Figs. 22 to 25) were epitheliomata which had begun at the inner canthus and had spread into the orbit and on to the nose. In four of these the disease had extended so far into the orbit that the eye had been destroyed; in two the bones of the ridge of the nose were deeply involved, and the orbit infiltrated to the point where operation was regarded by surgeons who referred the cases as impractical; in one the disease had involved the orbit and the adjacent bone to the point where the eye was fixed in the carcinomatous tissue. In this case the patient had only the one eye, the other having been lost in childhood, so that checking the course of the disease was of vital benefit. This patient came under treatment in June, 1903; the disease was held in check sufficiently for his eye to remain useful up to December, 1906, over three years; since that time the eye had been destroyed.

Four of the seventeen cases were epitheliomata, the size of a large coin, involving the temple and the outer canthus of the eye and spreading into the orbital tissue. In each of these cases the external lesion was healed. In one case the disease recurred on the temple within a year. A radical operation was attempted by a surgeon and the patient died in a few days from aspiration pneumonia. In the second case a large external epithelioma was made to disappear almost completely, and extension was checked for a year and a half, until the patient's death from chronic spinal disease. The two other patients are still living. One is a very feeble old man whose external lesion was healed in August, 1903. Two

Fig. 1.—Epithelioma of tip of nose, May, 1901.

Fig. 3.—Photograph of patient shown in Figs. 1 and 2 with healthy scar, July, 1907

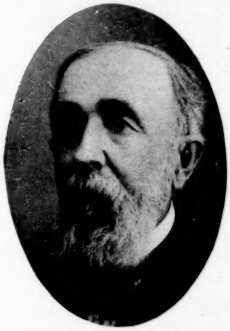

Fig. 5.—Photograph of patient shown in Fig. 4, May 27, 1907, showing condition after five and a half years.

Fig. 2.—Microphotograph of tissue from patient shown in Fig. 1.

Fig. 4.—Epithelioma, March, 1902.

Fig. 6.—Epithelioma in glabella, June, 1902.

Fig. 8.—Rodent ulcer on cheeks, large exuberant epithelioma on scalp (just visible in photograph), July, 1902.

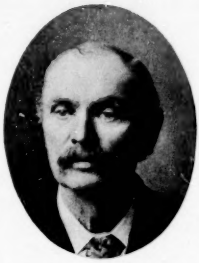

Fig. 11.—Photograph of patient shown in Fig. 10, August, 1907, after five years.

Fig. 7.—Result in July, 1902, which was maintained without recurrence until patient's death from nephritis three years later.

Fig. 12.—Epithelioma, November, 1902.

Fig. 9.—Photograph of patient in Fig. 8, July, 1907, five years later.

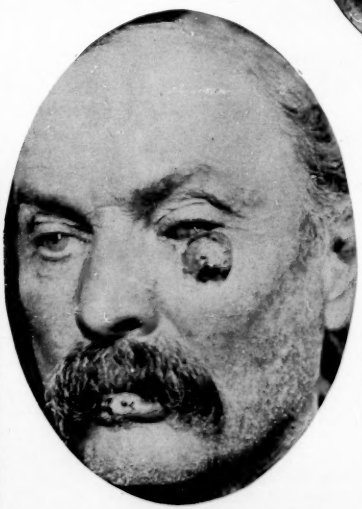

Fig. 10.—Epitheliomata, lower lip and lower eyelid, treated August, 1902.

Fig. 13.—Photograph of patient shown in Fig. 12, with healthy scar, June, 1907, after four and a half years.

V 50
1908

years later this had not again ulcerated, but I learn that it has since broken down. The other patient was treated in July, 1903. The lesion on the temple was converted into a healthy scar, but the intra-orbital mass did not disappear. The patient is still living, but he has become an Eddyite and I cannot learn the present condition.

Case 12 of this group is an epithelioma of twenty years' duration, recurrent after numerous operations, and involving both alæ nasi and the adjacent portions of the cheeks (Figs. 26 and 27). This patient came under treatment in April, 1901. She was symptomatically cured within a few months, except for two minute suspicious nodules near the nose, one on the right side of the face, the other on the left. The one on the right side of the face was excised one year later, and the disease has not recurred on that side. The suspicious nodule on the left side of the face remained quiet for five years; within the last year, however, it has grown somewhat, and in July, 1907, this was removed by operation. This patient was practically well for five years, but has a small lesion on the left ala nasi now.

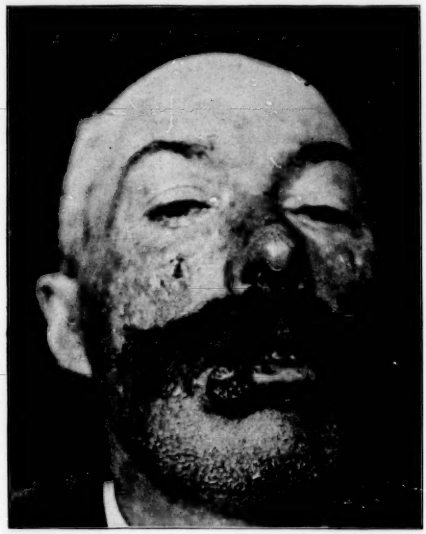

Fig. 14.—Epithelioma of lip, March, 1903.

Fig. 16.—Epithelioma, April, 1903.

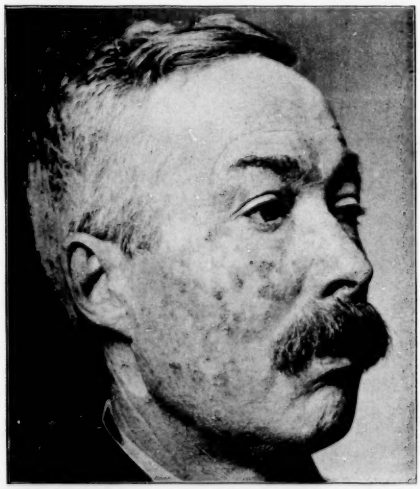

Fig. 15.—Photograph of patient shown in Fig. 14, with healthy scar, April, 1907.

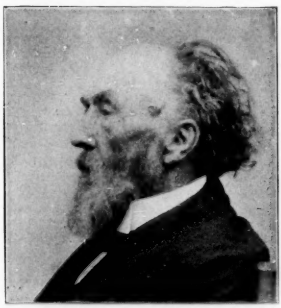

Fig. 17.—Photograph of patient shown in Fig. 16, with healthy scar, April, 1907, after four years.

Cases 13 and 14 in this group were very extensive epitheliomata which had entirely resisted other forms of treatment. Case 13 (Figs. 28, 29 and 30) was an epithelioma, in an old woman, involving almost the entire forehead, the upper and

lower lids and the eye on the left side, the upper lid of the other eye, and the upper half of the nose. This patient came under treatment in May, 1902. The lesions were entirely healed for over four years. In 1906, four and one-half years after the case came under treatment, an ulcer developed in the center of the forehead. This patient is still under my care with an ulcer in the center of the forehead, which has entirely destroyed the frontal bone over an area the size of a silver dollar, but under *x*-ray exposure has remained quiescent for months. In this case the patient was symptomatically relieved of a hideous epithelioma for four and one-half years, and her life has been prolonged in comparative comfort to the present time.

Fig. 18.—Epithelioma, April, 1903.

Fig. 19.—Photograph of patient shown in Fig. 18, May, 1907, healthy scar for four years.

Case 14 was an epithelioma larger than the hand and very deep, situated over the middle of the spine, in an old woman. The patient came under treatment in June, 1904, and the lesion was reduced to a painless, apparently benign, ulcer the size of three fingers. This improvement was maintained in the summer of 1906, when the last report was received.

Case 15 was an epithelioma of the upper lip, which had perforated the lip and involved the septum nasi, in a woman over 90 years old and extremely feeble. In this case complete healing was obtained, which persisted for about a year. The disease then recurred without further treatment, but under treatment was held in check until the patient's death from natural causes two years after coming under treatment.

Case 16 was one of deep-seated epithelioma, the size of a silver dollar, in the center of the cheek, in a very old woman. This patient came under treatment in April, 1904. The lesion was made to disappear, except for some subcutaneous induration. Regrowth did not begin until a year later, but when the tumor recurred it caused the patient's death.

Case 17 was an epithelioma of the lower eyelid which came under treatment in December, 1903. Healing of the lesion was

Fig. 20.—Epithelioma, April, 1903.

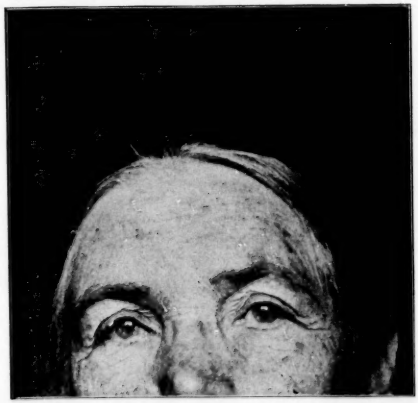

Fig. 21.—Photograph of patient shown in Fig. 20, July, 1907, after four years.

produced, but later a recurrence developed for which the patient was treated by another physician with the *x*-rays. At the present time he remains well, nearly four years since he came under my care. This case is actually a success, but not mine.

Although these cases can not be classed as technically successful, the improvement obtained in many of them

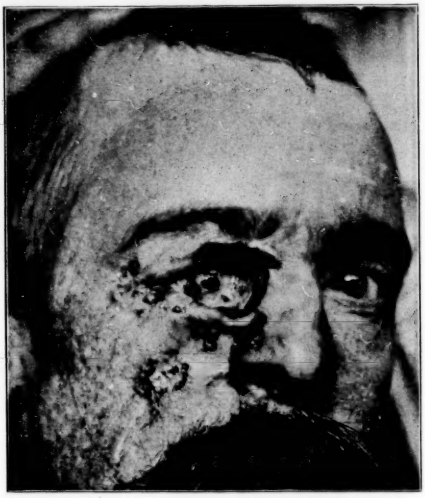

Fig. 22.—Epithelioma, December, 1901.

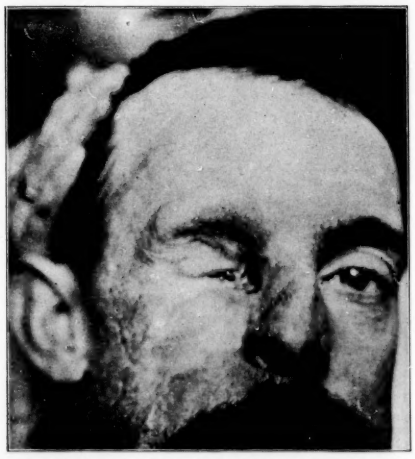

Fig. 23.—Same patient as in Fig. 22. Result, March, 1902. This improvement was maintained without treatment for about one year. Patient classed as distinctly benefited.

is, I believe, one of the strongest illustrations of the usefulness of *x*-rays. The cases, as a whole, represent a class which is utterly hopeless, with extension of the disease so widespread that complete removal by surgical measures is practically impossible. To take such patients and improve their lesions to the point where life is bearable or they are symptomatically relieved, is to do what can be done in no other way.

FAILURES.

Twelve cases are classed as failures. Nine of these were recurrent after previous operation and three were primary. Eight of the twelve cases were hopeless from

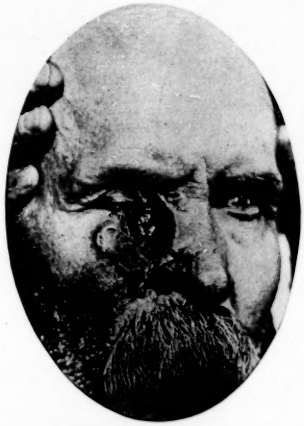

Fig. 24.—Epithelioma, July, 1902.

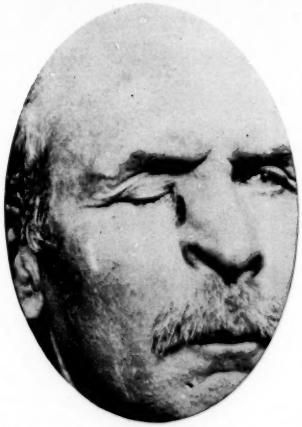

Fig. 25.—Condition, March, 1903, when patient shown in Fig. 24 disappeared. Classed as distinctly benefited.

the standpoint of surgical interference. Five of these eight were epitheliomata which had spread deeply into the orbit. Two were epitheliomata which had completely destroyed the nose and had extended deeply into the bones of the face. One case was an epithelioma which had destroyed the lower half of the ear and had invaded the neck. Seven of these eight patients were treated for

but a short time and really should not be considered. The eighth case, a very extensive epithelioma which had destroyed the nose, was kept under treatment until the patient's death without appreciable improvement from the use of *x*-rays. The ninth case of the twelve failures was an epithelioma in a man, age 60, which had destroyed the lower eyelid but did not show palpable evidences of involvement of the orbit; healing was produced in this case and the patient then abandoned treatment. Two years later I was informed that there was evidence of recurrence. The tenth case was a large epithelioma of the back of the hand in a man aged 68, referred to me by a surgeon. Temporary healing was produced, recurrence took place in the course of eighteen months, and without further treatment at my hands the carcinoma progressed and finally caused his death. Case 11 was a recurrent, superficial epithelioma of the forehead which was healed, but later there was a recurrence, for which the patient was treated by another physician and she is, I believe, now well, five years after I treated her. Case 12 was a recurrent epithelioma of the side of the nose and inner canthus, which I healed six years ago. In the last few months she appeared with a small epithelioma on the bridge of the nose near the site of the original lesion. The new lesion has promptly yielded to *x*-rays.

Cases 9, 10, 11 and 12 in this group might be classed as distinctly benefited, but in view of the fact that they were cases which might have been cured, they are classed as failures. Amputation of the hand, I believe, would have saved Case 10. Case 9 would, I believe, judging from my experience in orbital carcinoma, have been a

Figure 26.

Figure 27.

Fig. 26.—Epithelioma, April, 1901.

Fig. 27.—Patient shown in Fig. 26. Result, September, 1901, which was maintained until one year ago. Now has a small recurrence on left side of nose. Classed as distinctly benefited.

Fig. 28.—Rodent ulcer, May, 1902.

Fig. 29.—Patient shown in Fig. 28; condition November, 1902, four years thereafter.

Fig. 30.—Patient shown in Figs. 28 and 29, as she appeared in August, 1907, over five years later. Classed as distinctly benefited.

surgical failure. It had recurred already after operation. Case 11, I believe, and Case 12 are at present well and are not actually failures.

SUMMARY.

Of the thirty-one cases which are classed as not entirely successful, twenty-eight were cases which had failed of relief under other forms of treatment; only three were primary cases. These three cases were all in the group of failures; they were all carcinomata involving the orbit and were inoperable. There are in this entire list of thirty-one cases not successful only five cases in which, in my opinion, there was any hope of cure by other methods of treatment. All of these five cases had previously been treated surgically and all were referred to me by surgeons. One of these five cases, Case 2, in the practically successful group was an epithelioma involving the external auditory canal. The other four were Cases 9, 10, 11 and 12 among the failures which have been considered in the preceding paragraph.

There is, however, room for quibbling about all of the cases which are not radically successful. Counting then the 31 cases which were not radically cured as failures, there remain eighty successful cases in a list of 111 successive cases of epithelioma treated more than three years ago, a showing of 72 per cent. of successful results. This record will, I believe, bear comparison with that of any similar group of cases treated by any other method.

ADENOMYOMA OF THE UTERUS.*

THOMAS S. CULLEN, M.B.
BALTIMORE.

With the employment of the more exact clinical methods of examination and with the systematic study of all uteri removed at operation we have gradually gained an insight into the various diseases of the uterus.

Hemorrhage is one of the cardinal signs of carcinoma of the uterus, whether the disease be situated in the cervix or body. In the early stages of the disease an examination of a portion of the cervix or of scrapings from the body will as a rule enable the pathologist to say positively that a malignant growth is present.

Where uterine myomata exist hemorrhage may or may not be present, this phenomenon depending entirely on whether one or more of the myomata are partially or completely submucous.

Uterine hemorrhage also occurs where tubal pregnancy exists and is a frequent accompaniment of an acute tubal infection and is often noted where an ovarian cyst is present. In each of these cases the attending physician may gain a satisfactory clue as to the existing condition from the history.

Hemorrhage may be due to a constitutional tendency. Here also the family history will materially help the surgeon to make a satisfactory diagnosis.

In my experience there are three other conditions that are frequently responsible for uterine bleeding.[1] In the first group the patients are usually from 18 to 25 years of age. Much hemorrhage occurs at the menstrual period. On curettage the surface epithelium is found intact and the glands are normal, but there is a great increase in the stroma cells, and in their nuclei many nuclear figures are found. In such cases curettage every three or four months for a period of several years is often necessary. The hemorrhage then usually ceases. I reported two such cases on page 479 of my book on Cancer of the Uterus.

In the second group of cases the patients have excessive menstrual bleeding and occasionally an intermenstrual flow. The histologic picture of the scrapings is characteristic, and I am at a loss to give the composite picture a name. The surface epithelium is intact, the glands are large and some of them are round and cystic, but the cystic change is not due to occlusion and pressure, as the epithelium instead of being atrophic is much thickened. The stroma is very rich in cell elements and the veins are often much dilated. In all cases where such conditions exist hemorrhage is present.

It is with the next group, namely, adenomyomata, that we are here chiefly interested. To the pathologist we are indebted for giving us the first clear and succinct account of this disease, and yet he can not aid the clinician in its diagnosis, as his examination of the uterine mucosa will yield nothing but perfectly normal mucous membrane.

Fig. 1.—Diffuse adenomyoma of the posterior wall of the uterus, Gyn. Path. No. 661. The uterus has been amputated through the cervix. The anterior uterine wall is unaltered. The posterior wall from cervix to fundus is greatly thickened, owing to the presence of a diffuse myomatous growth lying between the mucosa and the outer covering of normal muscle. This diffuse growth consists of fibers forming whirls, but also passing in all conceivable directions. It encroaches to a slight extent on the uterine cavity. At *a* we see the junction between the diffuse myoma and the normal muscle. The fibers of the one, however, blend imperceptibly with the other, and it would be impossible to shell this growth out, as can be done with discrete myomata. Near the internal os is a small polyp. The uterine cavity is somewhat lengthened. The mucosa lining the anterior wall is of the normal depth, but that covering the posterior wall is considerably thickened and at two points indicated by *b*, it can be traced for a considerable distance into the myoma. At *c*, just along the lower margin of the growth, the mucosa can be seen penetrating the uterine wall for fully 1.5 cm.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907. The article is here abbreviated, but the complete article appears in the Transactions of the Section and in the author's reprints.

1. Uterine polypi are purposely omitted.

In 1903 I[2] reviewed the literature on the subject in a supplement to Orth's Festschrift and reported twenty-two cases of adenomyoma examined by me up to that date. Since then I have paid especial attention to these growths and have been astonished at their remarkable frequency. In the examination of between 1,300 and 1,400 cases of myoma I have found seventy-three adenomyomata, in short in over 5 per cent. I have included only interstitial, subperitoneal and submucous adenomyomata and large ademyomata of the uterine horns.

Glandular elements have from time to time been noted in myomata and, according to Breus,[3] Schroeder, Herr and Grosskopf were able to collect a total of 100 cases up to 1884. Not until the masterly work of von Recklinghausen[4] published in 1896 has this subject received much attention. These growths, as their name implies, consist of gland elements and myomatous tissue. They form a distinct class of their own, and on microscopic examination their recognition is easy. Even in the gross specimen it is often possible to render a positive diagnosis. For the use of clinicians I have divided these growths into three classes, although it will be readily seen that one class may merge imperceptibly into the other. The divisions are: 1, Adenomyomata where the

Fig. 2.—Diffuse myomatous thickening in the fundus and posterior uterine wall with extension en masse of the mucosa into a large crevice between myomatous masses. Gyn.-Path. No. 788. The myoma is welling into the uterine cavity and into the space between myomatous masses a large area of mucosa is flowing. With the continued growth of the myomatous tissue this mucosa would in all probability be nipped off and carried outward, thus forming a large island of mucosa surrounded by myomatous tissue.

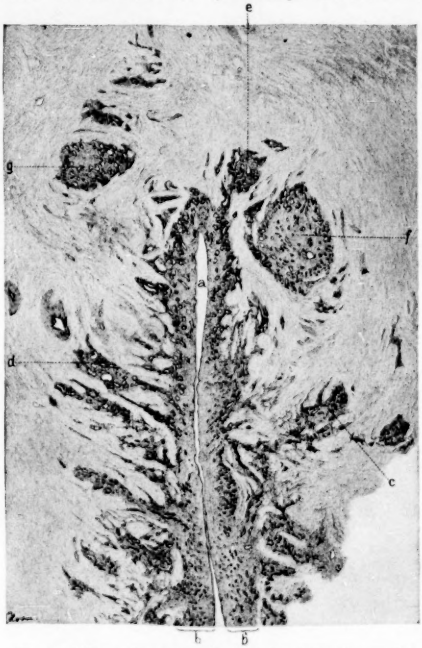

Fig. 3.—Diffuse adenomyoma in the body of the uterus. Gyn.-Path. No. 9841. The section is from the upper part of the uterus. *a* indicates the uterine cavity and *b* and *b'* the normal thickness of the mucosa. The surface epithelium is intact, and the glands are of the normal appearance, but the mucosa is everywhere flowing into the underlying myomatous tissue, as is particularly well seen at *c*, *d* and *e*. Sections at another level show that the apparently isolated islands *f* and *g* are also continuous with the mucosa lining the uterine cavity.

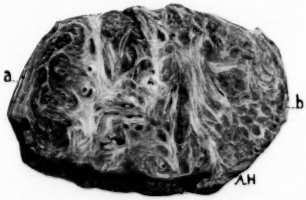

Fig. 4.—A portion of a diffuse adenomyoma in the posterior wall of the uterus. Gyn.-Path. 777. At operation the posterior uterine wall was found much thickened. A wedge was cut out and the surfaces brought together as in an ordinary myomectomy. *a* is the peritoneal surface, just beneath which is a zone of normal muscle. The growth presents the typical appearance of diffuse myoma. Along the outer margin it gradually merges into normal muscle. *b* corresponds to the point nearest the uterine cavity. The uterine cavity posteriorly was not opened. Scattered throughout the myoma are small round, oval or oblong spaces. Some are dilated glands, others cross sections of small blood vessels. At the time the operation was performed we were not familiar with these adenomyomatous growths.

2. Adeno-Myome des Uterus, Verlag von August Hirschwald, Berlin, 1903, 91 pages.

3. Ueber wahres Epithel Führende Cystenbildung in Uterus-Myomen, Leipzig und Wien, 1894.

4. Die Adenomyome und Cystadenome der Uterus und Tubenwandung; ihre Abkunft von Resten des Wolff'schen Körpers, Berlin, 1896.

uterus preserves a relatively[5] normal contour; 2, subperitoneal or intraligamentary adenomyomata; 3, submucous adenomyomata.

ADENOMYOMATA IN WHICH THE UTERUS PRESERVES A RELATIVELY NORMAL CONTOUR.

The uterus may be normal in size or it may be found to be two or three times the natural size. Where the organ is considerably enlarged it is frequently partially covered by adhesions. In these uteri there is myomatous transformation of the muscle, the thickening extends from the mucosa outward and may involve half the thickness of the wall or reach even as far as the peritoneum. Sometimes it is limited to the anterior or posterior wall, but may involve both. Where such is the case we have a uterine cavity lined by a mucosa, which is surrounded by a thick zone of myomatous muscle covered externally by a mantle of normal muscle of variable thickness (Fig. 1). The myomatous thickening is diffuse in character, consists of bundles of muscle fibers running in all directions and along the advancing margins, gradually merging into the normal muscle in contra-distinction to simple myomata which are sharply circumscribed. Given such thickenings of the uterine wall, we may always suspect the presence of gland elements.

On examining the uterine cavity it is usually found that the mucosa at one or more points extends into the diffuse myomatous tissue beneath. This is more readily discovered by examining with a loup, and on careful scrutiny of the diffuse myomatous growth small, round, irregularly triangular or oblong areas composed of a waxy, fairly homogeneous tissue are found lying between myomatous bundles. These areas correspond closely in appearance with the uterine mucosa, and with the lens one can make out punctiform openings—cross sections of glands. Frequently such areas contain cyst-like spaces varying from 0.5 to 5 mm. or more in diameter. Other and larger cyst-like spaces are occasionally found. These have a smooth inner surface and a lining of mucosa often 1 mm. in thickness. They are in reality miniature uterine cavities. Many of these cyst-like spaces contain fresh blood or yellowish-brown pigment, the remains of old hemorrhages. Small cyst-like spaces may readily be mistaken for blood vessels, but the larger ones are easily recognized. Among the most instructive cases reported are those of Lockstaedt.

In Figure 2 we see just the earliest stage of such a condition as Lockstaedt[6] found. Here we find in the fundus coarse myomatous masses welling into the cavity and a large area of mucosa passing down into the crevice between. With the continued growth of the myoma a portion of the uterine cavity would soon be drawn into the depth and in all probability would eventually lose its continuity with the parent uterine cavity.

Rarely if ever do we find the slightest trace of glands in the outer covering of normal muscle. In the majority of these cases, besides the diffuse myomatous growth, a few circumscribed myomata are present. These are irregularly scattered, being submucous, interstitial or subperitoneal. They are usually several centimeters in diameter, but may reach 15 cm. (6 in.) or more before the uterus is removed. When the uterus is not enlarged the uterine cavity generally presents the usual appearance and is in no way altered, as the diffuse myoma does not usually press inward as a submucous myoma invariably does.

The uterine mucosa is usually smooth save for the occasional depressions as noted in Lockstaedt's case, is of the usual breadth or may reach a thickness of from 7 to 8 mm. Polypi, so common in cases of discrete myomata, are usually wanting.

HISTOLOGIC EXAMINATION.

The surface of the mucosa is usually smooth and has an intact epithelium. The glands present the normal appearance. The stroma of the mucosa just beneath the surface epithelium is often slightly edematous or rarefied. The diffuse thickening in the uterine walls consists of the characteristic myomatous tissue, but the muscle bundles show much more interlacing than is found in the ordinary discrete myomata, and then along the outer or advancing margin of the growth the myomatous cells gradually and imperceptibly merge into the normal muscle cells. The myomatous tissue, as was noted macroscopically, extends up to, but does not encroach on, the mucosa. In most cases the mucosa can be seen dipping down into the diffuse myomatous growth, and it will be noted that at such points the muscle bundles run at right angles to the mucosa, thus allowing the mucosa to dip down between them. Sometimes a single gland penetrates the myoma. Such a gland presents a perfectly normal appearance and is usually accompanied by the stroma of the mucosa which separates it from the muscle. In a favorable section such a gland can be traced far into the myomatous tissue. If it meets a barrier in the form of a muscle bundle running parallel to the uterine mucosa, instead of at right angles, it is deflected along the surface of this until other muscular bundles are encountered that are again at right angles to the uterine cavity. It then passes still further outward between them.

In other words, the gland follows the path of least resistance, winding in and out in all directions like a rivulet, but always penetrating toward the peritoneal surface. While single glands penetrate occasionally, larger portions of the mucosa, as a rule, find their way into the muscle (Fig. 3). These glands retain their normal appearance and, as has been noted, are invariably surrounded by normal stroma of the mucosa. These extensions of the normal mucosa can be traced by direct continuity for at least 1 cm. in many cases. In one of our cases they could be followed for over 1.5 cm. Of course, with the winding in and out of the down-growths of the mucosa the continuity will then be lost in the depths. Nevertheless serial sections and injections in favorable cases, as carried out by Lockstaedt, show that the bunches of glands found in the depths are direct extensions from the mucosa. In the outlying portions of the diffuse myoma round, oval triangular or irregular islands of glandular tissue are encountered. These consist, as a rule, of essentially normal uterine glands lined by one layer of cylindrical ciliated epithelium and surrounded by the normal stroma of the mucosa. Some of these glands become cystic, the dilation varying from 1 to 9 mm. or more in diameter. Such dilations are easily explained by the kinking and bending to which the glands are subjected by the surrounding and ever growing myomatous tissue.

The epithelium of the dilated glands is usually pale staining and somewhat flattened. The cyst spaces fre-

5. I use the word "relatively" because if operative interference be long delayed some of the discrete myomata so frequently found may assume large proportions and almost completely overshadow the adenomyoma and likewise alter the contour of the uterus.

6. Ueber Vorkommen und Bedeutung von Drüsenschläuchen in den Myomen des Uterus, Monatsch. f. Geb. und Gyn., 1898, vii, 188.

quently contain desquamated epithelium, sometimes are partially filled with blood pigment and also contain a varying quantity of blood. In several instances we have noted round giant cells containing from four to eight nuclei in their centers and probably originating from the coalescence of degenerated epithelial cells. Some of the large spaces are not dilated glands, but represent cross sections of the deep depressions from the mucosa as noted in Lockstaedt's cases. Here the entire mucosa is carried into the myoma, and on cross section we have a space lined by one layer of surface epithelium surrounded by typical uterine mucosa. Of course the mucosa on one side may be thinned out on account of the irregular stretching of the myomatous tissue and then we have a picture suggesting the "Hauptkanal" of von Recklinghausen. In one of my cases a miniature uterine cavity was situated within 1 mm. of the peritoneal surface of the uterus.

From the pathologic description it is seen that the glands are naturally more abundant in the vicinity of the uterine mucosa, that they gradually diminish in number in the outer myomatous zone and are wanting in the normal outer muscular capsule. In short, where the myoma ends they cease. In some cases, although the glands in the diffuse myoma are identical with the uterine glands, their origin from the mucosa can not be clearly proven. In the majority of these cases very careful examination of serial sections will show that at some points at least the glands of the mucosa are continuous with those in the depth.

SUBPERITONEAL AND INTRA-LIGAMENTARY ADENOMYOMATA.

These are considered together inasmuch as the process is similar in both instances, namely, the extension to the outer surface of the uterus. If situated above the middle of the uterus the adenomyomata tend to become subperitoneal; below this point and lateral to the uterus they are likely to spread out between the folds of the broad ligament. Subperitoneal adenomyomata may be very small and completely isolated. I have examined subperitoneal nodules not over 1 cm. in diameter and have had others 13 by 10 by 8 cm. (5 by 4 by 3 in.). In a large nodule there is usually a large irregular cavity filled with chocolate-colored contents. Smaller ones also contain remnants of old blood.

On histologic examination the cyst walls are found to be composed of myomatous tissue. The cavities are lined by one layer of cylindrical ciliated epithelium, and in some places there is a moderate amount of underlying stroma separating the epithelium from the muscle.

Probably one of the most remarkable subperitoneal adenomyomata of the uterus ever reported was the "voluminous" one of Pick,[8] which occurred in a woman 41 years old, sprang from the posterior surface of the uterus and was adherent to the anterior abdominal wall and to the intestinal loops. It consisted of many large blunt papillary masses, and in the vicinity of the median line the mass contained a glistening slimy cystic tumor about the size of a man's head. It was everywhere adherent. The cyst cavity contained clear muco-colloid material. On the surface of the growth were many isolated nodules consisting of myomatous tissue and containing large and small spaces. Pick found that the solid portions of the tumor consisted of a fibromyomatous substance surrounding a well-formed glandular tissue. This glandular tissue consisted of cylindrical glands lined by a single layer of cylindrical epithelium. Sometimes the glands occurred in groups and were surrounded by a definite stroma. Others showed cystic dilatation. From the description it is seen that this tumor was a subperitoneal and adherent adenomyoma.

8. Ein neuer Typus des voluminösen paroophoralen adenomyoms, Arch. f. Gynaek. liv, 117.

SUBMUCOUS ADENOMYOMATA.

Submucous adenomyomata are certainly not very common. In one of my cases in which a myoma extended out into the broad ligament a large portion of it also projected into the uterine cavity. The growth at operation was thought to be a sarcoma, and consequently the entire organ was removed. Scattered throughout the submucous portion of the myoma were large and small cystic spaces filled with chocolate-colored contents and lined by a definite mucosa. Sections from some portions of these cavities showed mucosa that could not in any way be distinguished from normal uterine mucosa.

In Case 6855 there was a submucous nodule containing a few small uterine glands, and in Case 10872 a myoma containing three cystic spaces each 1 cm. in diameter and having a smooth lining, which consisted of one layer of columnar epithelium.

In Case 10314 we had a most beautiful example of a submucous myoma containing collapsed and dilated spaces lined by a definite mucosa. These were here and there filled with chocolate-colored contents, and on histologic examination they were found to be miniature uterine cavities.

It would appear that in these cases there had been a diffuse adenomyoma and that the uterus was trying to free itself of the new growth in the same manner in which it extruded ordinary myomata. Accordingly, the polypoid condition had naturally resulted.

Remembering the diffuse adenomyomata of the uterus and subsequent extension of the growth to the outer surfaces with the formation of subperitoneal or intra-ligamentary cystic adenomyomata, it is easily understood that portions of the growth, at least, are forced inward and become submucous. In the submucous polyp we do not generally expect much cystic dilatation of the glands, since the growth is continually subjected to the uterine pressure on all sides.

CERVICAL ADENOMYOMATA.

From the study of adenomyomata of the body of the uterus we have seen that, in the first place, there is diffuse myomatous thickening of the inner muscular walls accompanied by a down-growth of the normal mucosa into this diffuse growth. Portions of this adenomyoma may become subperitoneal or intra-ligamentary and may form a large cystic adenomyoma. Portions of the diffuse growth were also found to project into the uterine cavity, forming submucous adenomyomata. Should an adenomyoma develop in the cervix we would expect it, judging from analogy, to consist of cervical glands enclosed in a tissue made up of myomatous muscle and the dense stroma characteristic of the cervical stroma. In Case 3898 there was found a small myomatous uterus, in which remnants of an adenomyoma were present along the outer border of the cervix, that is, near the broad ligament or vaginal attachment. The glands in this small growth correspond to those of the body of the uterus and, in addition, they are surrounded by the usual stroma found in the mucosa above the internal os. Landau and Pick[12] reported a case in which the cervical

12. Ueber die mesonephrische Atresie der Muller'schen Gänge, zugleich ein Beitrag zur Lehre von den mesonephrischen Adenomyomen des Weibes und zur Klinik der Gynatresien, Arch. f. Gynaek., 1901, lxiv, 98.

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canal was entirely obliterated by an adenomyomatous nodule which completely shut off the uterine cavity from the vagina. In this case also typical uterine glands with their accompanying stroma were the epithelial elements present.

In 1896, when reporting two typical cases of diffuse adenomyoma of the body of the uterus,[13] I described an adenomyoma of the cervix consisting of cervical glands, muscle and a moderate amount of fibrous tissue. This finding is very rare, as from the literature we have been unable to glean a single similar case. In this case a round submucous nodule 2.5 cm. (1 in.) in diameter projected from the cervix.

On histologic examination the outer surface of the nodule is found to be in places covered by cylindrical epithelium. Scattered everywhere throughout the muscle are gland-like spaces varying from a pinhead to 3 mm. in diameter. These are lined by a single layer of epithelium, which in the smaller glands is of the high cylindrical variety. In the dilated glands, however, it is cuboidal or has become almost flat. The cell protoplasm takes the hematoxylin stain, as is so characteristic of the cervical epithelium. The nuclei are oval and vesicular and in many places it is possible to make out cilia. The gland cavities are empty or contain granular material that takes the hematoxylin stain. The glands tally in every particular with the cervical glands. This nodule is undoubtedly a cervcal myoma and appears to be the only one of its character on record. It has evidently started near the internal os. Otherwise we would not have had so much muscular tissue.

ADENOMYOMA IN ONE HORN OF A BICORNATE UTERUS.

It is rather interesting to find one horn of a bicornate uterus the seat of an adenomyoma. Whether the opposite horn was likewise involved I can not say, as the uterus was not removed. From a clinical standpoint it is also instructive, as in this case there was absolutely no connection between the vagina and the uterine cavity, there being practically no cervix. The condition in this case absolutely excluded the possibility of pregnancy having had any causal relation to the development of the adenomyoma.

HYPERTROPHY OF THE CERVIX AND DIFFUSE ADENOMYOMA OF THE BODY OF THE UTERUS.

In the examination of thousands of specimens this is the most unusual one which I have ever seen. There is such a marked increase in the size of the cervix due to simple hypertrophy, while the fundus has kept pace by the development of an adenomyoma. We accordingly have a uterus which, although greatly enlarged, still has retained its relatively normal proportions.

CONDITION OF THE TUBES AND OVARIES WHERE ADENOMYOMA OF THE UTERUS EXISTS.

In forty-five careful examinations of the tubes and ovaries to find a causal relation between them and the development of adenomyoma in the uterus, I have failed to find any proofs of such relation. In fifteen cases I found the appendages on both sides normal. In the remaining thirty cases the appendages on one or both sides were covered by adhesions, there being a mild degree of pelvic peritonitis, in part probably due to the discrete myomatous growth, but to a greater extent undoubtedly caused by the diffuse myoma. In these cases the uterus showed a peculiar tendency to become adherent to adjoining structures.

Where pelvic adhesions are present the normal maturing of the follicle is often interfered with, and we consequently find small Graafian follicle or corpus luteum cysts. These pathologic changes in the ovaries are not in excess of those usually found in a corresponding number of abnormal adnexa examined in the laboratory. Adenomyoma of the uterus does not seem to increase materially the pathologic changes in either the tubes or ovaries.

In forty-nine cases where I examined the uterus for adhesions twenty-five were perfectly smooth and twenty-four were more or less adherent. The adhesions were, as a rule, confined to the posterior surface of the organ, rarely was the anterior surface involved.

THE CLINICAL PICTURE IN CASES OF ADENOMYOMA OF THE UTERUS.

This will, of course, depend on the situation of the growth, also on the size and situation of the discrete myomata so often associated with adenomyoma. Where the diffuse growth is the chief factor the patient usually gives a history of lengthened menstrual periods accompanied by a great deal of pain, sometimes limited to the uterus but often also referable to the back and extending to the legs. This pain may be dull, aching or grinding in character. As the disease progresses the menorrhagia may be replaced by a continuous hemorrhagic discharge, as was observed in several cases, or alarming bleeding may occur. This hemorrhage is readily accounted for when we take into consideration the greatly increased amount of uterine mucosa existing under such circumstances, comprising that lining the uterine cavity and also that liberally distributed throughout the diffuse myomatous growth. The pain is also easily explained when we remember that the myomatous tissue is treated as a foreign body.

In some cases of discrete myomata there is also pain, but the uterus readily forces the nodule toward the peritoneal or submucous surface. In the diffuse growth while this is also possible, the difficulties in its accomplishment are much greater, as the mass is so intimately interwoven with the normal muscle. At each menstrual period the uterine mucosa is congested and thickened. In adenomyoma with an increased amount of blood in the islands of the mucosa scattered through the diffuse growth we should naturally have increased tension, producing a tenderness or sharp pain in the uterus.

In analyzing the clinical histories of thirty-seven cases for uterine discharge we find that twenty-six were free from any flow between menstrual periods or between hemorrhages. In eleven there was a distinct flow, chiefly leucorrheal in character and usually non-irritating. In a few instances it was greenish or yellowish in color and offensive. In Case 3192 there was a frequent white discharge, and in Case 1944 a watery discharge was present. This might readily be accounted for, as the patient had a hemoglobin estimate of only 40 per cent. One is naturally surprised to see that so few of the patients gave a distinct history of vaginal discharge. When we remember, however, that the uterine mucosa and that situated deep down in the muscle is practically normal, this relative absence of the vaginal discharge is readily explained. In those cases in which the adenomyoma becomes subperitoneal or intra-ligamentary and forms large cysts pressure symptoms may occur, and such cysts are usually firmly fixed in the pelvis. This is especially

13. Adenomyoma Uteri Diffusum Benignum, Johns Hopkins Hospital Reports, 1896, xi.

true in the intra-ligamentary variety, where the tumor is prevented from arising into the abdomen by the broad ligament.

AGE.

I have found this disease in women as young as 19 and as old as 60. In sixty-six patients in whose cases the age was obtained the following result was noted:

One was 19.
Three were between 20 and 30.
Twenty-one were between 30 and 40.
Nineteen were between 40 and 50.
Twenty-one were between 50 and 60.
One was 60.

Showing that the period between the ages of 30 and 60 is the most frequent for this disease. The process seems to be a slow one, as is evidenced by the clinical history. Some patients date their trouble back five to ten years, while others have been complaining for only a few months. I have found this disease equally prevalent in the colored and white race.

RELATION TO PREGNANCY.

I have examined the clinical histories in forty-nine of the cases to determine the relative frequency of pregnancy, with the following results:

Nine were single.
Six were sterile.
Two had had miscarriages.
Thirty-two had had children.

One of the sterile patients had not married until over 40 years of age and might accordingly be equally well classed with the single patients from that standpoint. In thirty-one of the thirty-four patients that had had either children or miscarriages I have accurate records of the number of children. In all 141 children were born, approximately four children to each woman. In a few instances a woman had but one child, while in one case the patient was the mother of thirteen, in another of eleven, in a third case of ten. These figures show that the disease is found in the single as well as in the married women and, furthermore, that it does not seem to in any way militate against normal pregnancy.

PHYSICAL EXAMINATION.

On making a vaginal examination, where the growth is confined to the uterus, we find the cervix practically normal, the body of the uterus considerably enlarged and very hard. In the majority of cases we also feel definite small round bosses due to discrete myomata. In the early cases the organ may be free, but very often it is enveloped in adhesions and firmly fixed. In some cases the organ will be symmetrical and the size of that of a two or three months' pregnancy and very firm. Where the growth is large and cystic and lies in the abdominal cavity it is impossible to differentiate it from an ordinary myomatous uterus pure and simple or associated with an ovarian cyst. If the growth be intra-ligamentary it is more firmly fixed in the pelvis and is then comparable to a broad ligament myoma or to an intra-ligamentary cyst, although it may simulate a large pelvic abscess. The clinical history of pus will, however, be wanting.

From the foregoing it will be seen that the diagnosis of adenomyoma of the uterus is difficult. If we are dealing with a diffuse form the frequent and ever-increasing hemorrhages associated with a hard, slightly enlarged uterus containing a few small discrete myomata and yielding on curettage normal, although moderately thickened, mucosa, we may reasonably suspect an adenomyoma, although the hemorrhages may be due entirely to the discrete myoma. Where carcinoma of the body of the uterus is present the organ is likely to be somewhat soft; it rarely has small and isolated myomata on its surface, and yields adenocarcinoma instead of normal mucosa on curettage. Where the growth is subperitoneal or intra-ligamentary the diagnosis is impossible until the abdomen is opened, but then given a myomatous uterus containing large cystic areas with smooth velvety linings and chocolate-colored contents adenomyoma will usually be found.

TREATMENT OF ADENOMYOMATA OF THE UTERUS.

In the majority of these the case will be looked on as one of simple myoma and its true character only determined after operation. Should a diagnosis be made, abdominal hysterectomy is indicated. Myomectomy is inapplicable, as the growth is so interwoven with the normal muscle that it can not be shelled out. In cases of intra-ligamentary and cystic adenomyomata, evacuation of the cyst contents will often be found necessary before it is possible to shell the tumor and the uterus out from the pelvic floor. As these growths will lift up the peritoneum of Douglas' sac, it will be advisable to dissect the peritoneum back so that it can be replaced after removal of the tumor, thus avoiding a raw area on the pelvic floor. If this precaution be not taken, intestinal loops are apt to drop down and become adherent.

THE BENIGN CHARACTER OF ADENOMYOMA OF THE UTERUS.

When considering these growths in 1896, I agreed with von Recklinghausen that they are benign. The glands are perfectly normal uterine glands and are surrounded by the normal stroma of the mucosa. They are confined entirely to the new growth and do not show the slightest tendency to invade the normal muscle. Wherever possible, it is always well to back up the impressions gained from histologic study by the clinical sequence. And in two of our cases this has been unconsciously and yet admirably done. In Case 3600 (Fig. 4), on opening the abdomen, a diffuse myomatous thickening was found in the posterior uterine wall. It was considered to be only a myomatous thickening and a wedge-shaped piece of growth was removed; in other words, a partial myomectomy was performed.

The histologic picture showed the growth to be adenomyoma of the uterus. The patient remained perfectly well for years. A similar wedge was removed in Case 4415. The patient also remained perfectly well.

SQUAMOUS CELL CARCINOMA OF THE CERVIX AND ADENOMYOMA OF THE BODY.

In a previous communication[2] I reported one case of squamous-cell carcinoma of the cervix associated with diffuse adenomyoma of the body of the uterus. Since then I have examined five similar cases. The simultaneous occurrence of both these processes in six cases in the records of one laboratory certainly indicates that the coexistence of these two diseases is no rarity. When we see what a large number of adenomyomata have been detected where the uteri are carefully and systematically examined, and knowing how widespread squamous-cell carcinoma of the cervix is, it is little wonder that these two processes are frequently found in the same uterus. The symptoms of the carcinoma of

the cervix would naturally completely overshadow those of the adenomyoma. Consequently the marked extension of the uterine glands into the depth would not be suspected until after removal of the uterus.

ADENOCARCINOMA OF THE BODY OF THE UTERUS DEVELOPING FROM AN ADENOMYOMA.

From the consideration of adenomyomata of the uterus, it is seen that the gland elements are practically normal uterine glands, both in their histologic and physiologic peculiarities. From normal uterine mucosa we often have developing an adenocarcinoma. Consequently we should not be surprised if an adenocarcinoma were sometimes detected in an adenomyoma. Von Recklinghausen, in his entire series of adenomyomata, found only two cases where he thought there was a carcinomatous change. Meyer also had a suspicious case, but from his description I would hardly venture a positive diagnosis of malignancy. In Case 4656, where carcinoma of the body of the uterus was present, I noted several dark areas deep in the muscle and surrounded by definite zones of stroma. They consisted of typical islands of uterine glands surrounded by the stroma of the mucosa. Some of the glands were dilated, forming cyst-like cavities. In one of these cavities lined by a single layer of cylindrical epithelium and separated from the muscle by a definite stroma, the epithelium had proliferated, forming new glands and papillary outgrowths consisting almost entirely of solid masses of cancer cells. This case is undoubtedly one of adenocarcinoma developing in part from a cystic gland situated in the adenomyoma.

In Case 1852 I also found a similar condition. The body of the uterus was the seat of a typical adenocarcinoma and deep in the muscle areas of adenomyoma were found. At one point the carcinoma was seen developing from one of the glands in the adenomyoma. In this case the histologic picture also strongly suggested the independent development of sarcoma of the body.

ORIGIN OF ADENOMYOMATA OF THE UTERUS.

In 1896 von Recklinghausen reviewed the literature of adenomyomata and added many new cases. After a careful consideration of all, he concluded that in the vast majority of instances the glandular elements were derivatives of the Wolffian duct. This opinion was based on the supposed close analogy between the elements of the Wolffian duct and the glandular structures present in adenomyomata of the uterus. In only one case was he certain that the glands were due to downgrowths of the uterine mucosa. This case of von Recklinghausen's was included in the appendix to his most instructive treatise. Since his publication appeared, widespread attention has been directed to this subject and quite a number of new cases have been reported. Many writers have espoused von Recklinghausen's theory, but not a few have claimed that nearly all, if not all, of these cases owe their origin to the uterine mucosa or to a portion of Müller's duct. It would be unnecessary for me to review at length this lively controversy, but to those wishing the full details I would recommend the careful presentation of the subject as given by von Recklinghausen, Meyer, Pick and Kossman.

In my previous publication,[2] I reported 19 cases of diffuse adenomyoma and pointed out that in the majority of these cases the process was still limited to the uterus, thus enabling us to determine definitely the origin of the glands in most of the cases. Since then I have subjected each myomatous uterus to the most careful scrutiny, and wherever adenomyoma was suspected I have had very large sections made from many parts of the uterine cavity. If adenomyoma was present and no connection between the glands in the depth and the uterine mucosa could be detected, then I kept on cutting more tissue until finally in the vast majority of the cases I found that the gland elements were derivatives of the uterine mucosa. I have been greatly helped in this work by Mr. Benjamin O. McCleary, my laboratory assistant.

I have examined fifty uncomplicated cases of diffuse adenomyoma of the uterus, some very extensive, others in their early stages. In every one of these cases I have been able by persistent search to trace the uterine mucosa into the myomatous tissue. In other words, islands of mucosa in the diffuse myomata originated from the mucosa lining the uterine cavity in every case. The reader can verify this statement for himself by scanning the pathologic description of the cases which will later be reported in detail.

In six other cases there was squamous-cell carcinoma of the cervix and diffuse adenomyoma of the body. In five of the six cases the origin of the gland elements in the myoma could be traced to the mucosa. In the remaining case (Gyn. 9971), where the process was a rather indefinite one, it was impossible to show the origin of the glands from the mucosa.

We thus see that in 55 out of 56 cases of diffuse adenomyoma of the body of the uterus the gland elements were, in part at least, derivatives of the uterine mucosa.

Where the uterine glands are seen penetrating the myomatous muscle there is no question as to their being derivatives of the uterine mucosa, and, as will be seen from a study of these cases, in the majority in which the uterus was removed the mucous membrane origin was established. This fact is very significant when compared with the figures of those claiming the Wolffian duct origin. With the increase in thickness and the irregular growth of the diffuse myoma, it is very natural that the continuity of the uterine glands into the depth is after a time lost, as is evidenced by the formation of cysts.

It is not necessary that the uterine glands be traced by continuity to establish the mucous membrane origin. The islands of glands lying deep down in the myomatous muscle correspond identically with those seen in cases in which the continuity is traceable and also, moreover, they are precisely the same as in normal uterine mucosa. Furthermore, they are surrounded by a stroma identical with that surrounding the uterine glands. In some cases miniature uterine cavities are scattered throughout the myoma. From the uterine mucosa there is a periodic hemorrhage every month.

According to Hartz, Sanger, when speaking to his students of the uterine mucosa, said: "This is no simple mucous membrane, but it is an organ which has an important function to fulfill." With Sanger's view I am in thorough accord. In no other part of the body do we find a mucosa with a similar function and nowhere do we meet with such histologic peculiarities. Now, if portions of this uterine mucosa be far removed from the parent mucosa, we should still expect them to retain their function, and this they do. In nearly every instance in which cyst spaces are present the cavities are, in part or almost completely filled with blood; and even in the small and undilated glands blood is fre-

quently present, or the epithelial cells contain blood pigment, the remnants of old hemorrhages.

It is natural that the cysts in the uterine walls should remain small, as they are compressed by the muscle; on the other hand, when they have once become subperitoneal they may dilate until they contain several liters (quarts) of blood, although even in these cases they still show the evidence of the menstrual phenomenon as seen in their chocolate-colored contents. In the solid portions of these growths, islands of typical uterine mucosa are still demonstrable. It is so easy to understand how interstitial myomata become subperitoneal or submucous, and yet in considering the subsequent history of adenomyomata the majority of authors have forgotten to apply the same principle.

When the growth becomes subperitoneal we should expect its glandular elements to gradually lose their continuity with those of the mucosa, and such is the case. Hence the confusion as to their origin. Case 2 of Breus[14] illustrates very well the intra-ligamentary variety. In Krönig's[15] case we have all the elements of normal uterine mucosa and also large cysts. In Breus' case we find the same, but fortunately the communication between the uterine mucosa and the cystic tumor still persists, showing beyond a doubt that the gland elements in this case were from the uterine mucosa.

A definite example of a portion of a diffuse adenomyoma becoming subperitoneal is furnished by Lockstaedt.[6] The adenomyoma occupied the posterior wall and right side, and in the gross specimen it was possible, in at least five places, to see the mucosa extending deeply into the myoma. In this case there was a subperitoneal adenomyoma the size of a cherry that by its pedicle was in direct communication with the diffuse growth so that its glands were undoubtedly derivatives of those of the uterine mucosa.

Were we in need of still further proof that these islands of mucosa are identical with normal uterine mucosa, the case reported by Williams would certainly tend to convince the most skeptical. In examining the uterus of a patient dying a few days after labor, he found that it was the seat of a diffuse adenomyoma and that the stroma of these islands had been converted into typical decidua.

SUMMARY.

In the examination of fifty uncomplicated diffuse adenomyomata of the uterus the mucous membrane origin of the glands could be traced in every case. In 6 additional cases where squamous-cell carcinoma of the cervix complicated adenomyoma of the body the continuity was established in 5 cases. In the 2 remaining cases of diffuse adenomyoma of the body, the clue as to the origin of the glands was destroyed by adenocarcinoma of the body. Thus in only one case out of 56 where I expected to find the glands originating from the mucosa, if my view as expressed in 1896 was correct, did I fail to find it substantiated. In the remaining 15 cases of subperitoneal or submucous adenomyomata we would naturally not expect to trace the relationship between the mucosa and the glands in the myoma; nevertheless in one case (Gyn. 10314) the mucosa literally flowed into the myoma. It will thus be seen that when we include adenomyomata of every kind, whether subperitoneal, submucous or diffuse, I have been able in 56 out of 73 cases to trace the origin of the gland element to the uterine mucosa.[16]

All adenomyomata of the uterus in which the gland elements are similar to those of the uterine mucosa, and are surrounded by stroma characteristic of that surrounding the normal uterine glands, owe their glandular origin to the uterine mucosa or to Müller's duct, no matter whether they be interstitial, subperitoneal or intra-ligamentary, solid or cystic.[17]

DISCUSSION.

DR. STANLEY P. BLACK, Los Angeles, Cal., thought that those who examine uteri taken from operation very frequently find the adenomyoma such as Dr. Cullen described. He has seen them in a number of instances. One patient, a doctor's sister, presented symptoms identical with those Dr. Cullen mentioned. Her brother thought it was myoma. The uterus became much enlarged at the menstrual period. No tumor was shown, but simply an enlarged uterus. This was removed, and on the mucous surface was a smooth adenomyoma, a brownish-gray tumor, identical in all respects with the mucosa. The uterine wall was very thick, and at the operation the question arose what to do with it, whether to remove the cervix with the uterus, or to amputate the cervix. It was decided to amputate the cervix and remove the uterine body. On examining macroscopically nothing could be seen, but microscopically the uterine wall was deeply infiltrated with apparently normal mucosa, absolutely typical in all respects. When Dr. Black found that, on examining down close to the cervix, he advised a second operation to remove the cervix itself. This was done, but nothing was found in the cervix. This was done six or seven years ago and the patient has been entirely well since. He has never had the opportunity to study as carefully as Dr. Cullen has the method of growth of the tumor into the wall, but he has always considered them as being adenomas, possibly of more or less malignant character, and yet in these cases the mucosa is so typical that there is no idea of malignancy.

DR. J. G. ADAMI, Montreal, Can., congratulated Dr. Cullen on giving the death blow to the old ideas concerning these cystic formations in the myometrium, which pathologists conclude are purely derivatives of the surface mucous membrane. Dr. Adami asked Dr. Cullen for his views as to the correctness of terming these adenomyomata. The same condition is present in prostate tumors. The epithelial in growth are not of the nature of true tumor formations. They have grown there purely in harmony with the rest of the structure, and the growth is of regular type. To use the term adenomyoma is to indicate that the epithelial moiety is neoplastic. Dr. Adami holds that we are not dealing with tumors proper, and that the use of the term is, at least, misleading.

DR. THOMAS S. CULLEN, Baltimore, said that the uterine mucosa in these cases differs entirely from the mucosa covering submucous myomata. In adenomyomata the mucosa is usually thickened, while over a simple submucous myoma it is atrophic. Answering Dr. Black as to the advisability of removal of the cervix, he said that he has had in all 73 adenomyomata. Six of these were associated with carcinoma of the cervix. In each of these cases, however, the carcinoma was the dominant lesion and a radical operation was performed in the hope of eradicating the carcinoma. The adenomyomata was only detected in the laboratory. As a rule, where adenomyomata is present, it is only necessary to do a supravaginal hysterectomy. Carcinoma of the body of the uterus, Dr. Cullen said, develops from the epithelium lining the uterine cavity or from the gland epithelium. The glands of the adenomyoma consist of essentially

14. Ueber wahre Epithel-führende Cystenbildung in Uterus-Myomen, Leipzig und Wien, 1894.

15. Ein retroperitoneal gelegenes voluminöses Polycystom, entstanden aus Resten des Wolffschen Körpers, Beitr. zur Geb. u. Gyn., iv, 61.

16. Owing to lack of space it is impossible for me to give a detailed report of these cases. They will be reported with illustrations in a book on "Adenomyoma" I hope to publish later.

17. Frequently there are small cyst-like spaces apparently just beneath the peritoneal surface of the uterus. These are lined by a single layer of cuboidal cells and rest directly on the muscle. They are due to depressions from the peritoneal surface cut at another level. In favorable sections their continuity with the peritoneal cavity can be traced. Meyer has recently pointed them out. I thoroughly agree with his findings and have also often met with them on the under or protected side of tubal adhesions or lining the small depressions occurring on the surface of the ovary. The peritoneal cells, where protected, tend to become cuboidal.

V 50
1908

normal uterine glands, consequently one should not be surprised to find carcinoma occasionally developing from the glands of an adenomyoma. Dr. Cullen has had two cases showing such malignant change. Adenomyomata, he continued, are in no sense malignant. Before they were aware of such growths, Dr. Kelly removed wedges from two uteri showing marked thickening in their posterior walls. Subsequent examination showed that they were adenomyomata. Neither of them, however, showed signs of malignancy, and one of the patients is alive and well eleven years later. Dr. Cullen agreed entirely with Dr. Adami about the use of the term adenomyoma. They make it a point in their work in the hospital never to use the term adenoma in any connection, except when speaking of a malignant growth such as an adenocarcinoma. He further agreed thoroughly with Dr. Adami that this term, adenoma, is used too loosely, and in his work on cancer he emphasized particularly the advisability of never using the name adenoma, except for a malignant growth. This point is well taken. The only exception ever made to this rule is in the case of adenomyoma. When reporting his first cases before the Hopkins Medical Society, in 1895, Dr. Cullen referred the matter to Dr. Welch, and he suggested the term "adenomyoma diffusum benignum" for those growths limited to the uterine wall. While the term adenomyoma is not absolutely correct, it is difficult to find a more suitable term, and by common usage it has become firmly fixed.

THE OPSONIC INDEX IN ORTHOPEDIC SURGERY.*

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AND

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It is not the object of this paper to discuss the technic of obtaining the opsonic index, for full descriptions of this will be found in the literature. Neither will any attempt be made even to summarize the work of Metchnikoff, Mennes, Wright and Douglas, Neufeld, Rimpau and others whose researches have demonstrated the phagocytic activity of leucocytes and the factors influencing this activity.

Successful treatment of bacterial infections has been shown to be most marked when the process is localized. Wright treated a number of patients having localized tubercular infections with inoculations of Koch's new tuberculin with such good results that this substance has been used by many others as a therapeutic measure.

The tuberculo-opsonic index has been shown to be below normal in most cases of localized tuberculosis, though it may fluctuate if the tuberculous process is active and there is autoinoculation. In 150 cases of localized tuberculosis Bulloch found that the average index was 0.75, and Potter, Ditman and Bradley, in 22 cases of tubercular bone and joint disease, found that in 14 the index was below normal, in 3 cases normal and in 5 above normal.

Bearing these facts in mind, the work discussed in this paper has been undertaken with the following objects in view: 1. To determine the opsonic index in cases of tuberculous bone and joint infections. 2. To determine the effect of tuberculin on the opsonic index in these tuberculous cases. 3. To determine the relation between the opsonic index and the general and local conditions. 4. To compare the opsonic indices of patients living under the best hygienic conditions, but without the use of tuberculin.

To Koch has fallen the greater honors in the pioneer work of tuberculosis and treatment with tuberculin. To Wright is due the credit of proving the efficiency of very small doses of tuberculin and the definite estimation of its influence on what he has termed the opsonic index. Wright considers that rest in bed should be regarded as a therapeutic measure in general tuberculosis to end the autoinoculation which follows exertion, and that if to this could be added the belief that the cure of bacterial infections depends neither on the storage of fats nor on the bronzing of the skin, nor yet on the breathing of pure air, but on the destruction of the invading bacteria by the antibacterial substances in the blood, we should have come close to the truth.

The principles underlying the treatment of localized tuberculous infection Wright enumerates as follows: 1. The tuberculo-opsonic index of the blood in these cases appears to be uniformly inferior to that of normal blood. 2. The immunizing stimuli which are required for raising the opsonic power of the blood and for maintaining it at a high level here make default. 3. The tubercle bacilli are circulating themselves in the focus of infection under conditions which are more favorable to their growth than those which obtain in the cases of the circulating blood. 4. An increase in the opsonic power of the blood can be achieved and maintained by the inoculation of a series of appropriately adjusted and interspersed doses of tubercle bacilli.

It is too often forgotten, however, that the localized infection has been inoculated previously from the blood stream of the general circulation, which, therefore, has at some time been the host of tubercle bacilli.

It is true that such may not be the case at the time of treatment of the local infection, nevertheless it must be remembered that the local infection is in the large majority of cases a secondary infection, the primary being in the lungs, bronchial glands, the mesentery or kidney. The primary focus remaining dormant, may be recognized only at autopsy. Sometimes the primary focus may disappear altogether. These are important factors to be considered in the treatment of this subject, for any individual focus of disease can not be completely isolated without due regard to its close relationship to the existing general systemic condition, by reason of which we have the effect of the treatment reflecting directly and indirectly on the diseased area in evidence.

The cases under observation have been those of tuberculosis of the hip and spine. Here a brief outline only of the histories is given.

The first group of these cases has been under observation during the past six months.

CASE 1.—J. G., female, aged 2 years, has Pott's disease of the spine, involving the second and third dorsal vertebræ. The disease was first diagnosed fourteen months ago, since which time the patient has been treated in the hospital. The mechanical treatment has been hyperextension of the spine in bed. When this patient first came under observation she was in very poor general condition with secondary anemia. Acute symptoms marked the lesion in the spine. The opsonic index at this time was 0.6. A marked improvement has been noted both in the general and local conditions, especially during the past two months. The opsonic index has steadily risen until at the present time it is 1.6. She has received tuberculin in 1/1000 mg. infections at intervals of from seven to ten days.

* Read before the General Meeting of the New York Academy of Medicine, Oct. 3, 1907. This work has been carried on in the Pathologic Laboratory of the New York Post-Graduate Hospital.

CASE 2.—J. C., female, aged 9, has Pott's disease of the spine involving the eighth and ninth vertebræ. Seven years ago a small kyphosis was noticed. Three years ago an abscess developed which opened in the left groin. Since this time the discharge has continued from this sinus. In May, 1907, the left thigh became swollen and inflamed. Deep fluctuation was distinctly palpable. An incision was made over this area and an ounce of creamy pus was evacuated. The incision was then sewed up. At this time she suffered severe pain in the thigh and was unable to walk. Mechanical treatment has been a plaster-of-Paris jacket. When she first came under observation she had a fluctuating opsonic index averaging 0.7. The fluctuation suggested an active tuberculous process, and there was a secondary infection of staphylococcus. The condition of this patient began to improve markedly after the second injection of tuberculin. To-day both general and local conditions are better than at any time during the past three years. The opsonic index has risen to 1.8.

CASE 3.—T. S., male, aged 3, has left hip disease which dates back to an injury one and a half years ago. An abscess developed in January, 1907, which was opened and drained on Feb. 22, 1907. The discharge continued profusely after operation. In May, a second operation for more thorough drainage was deemed advisable. The mechanical treatment has been fixation and extension by the Phelps hip brace. This was another case in which there was secondary infection and discharging sinuses. When first seen his general condition was very poor, the opsonic index being .46 and non-fluctuating. A very gradual rise in the index has followed the injection of tuberculin. To-day his local and general conditions are decidedly improved, notwithstanding the secondary infection. Though the improvement has not been so strikingly in evidence as that of Cases 1 and 2. The present opsonic index is 1.20.

The second group of three cases has been under observation during the past two months.

CASE 1.—W. D., female, aged 14, has right hip disease with profusely discharging sinuses. The treatment by immobilization and extension was carried out until the last month. She has been confined to bed for the past two months and is being dressed daily. The condition of this patient was very bad when she was first seen; marked anemia was present. Treatment with tuberculin was begun to test its efficiency in severe cases. Her opsonic index at this time was 0.99, suggesting autoinoculation. Her opsonic index is .91 and her condition is not perceptibly improved.

CASE 2.—A. G., female, aged 4, has left hip disease, which began when she was one year old and has been treated with spica and hip splint. In April, 1907, an abscess developed and about one ounce of creamy pus was evacuated. The abscess sac was excised, the incision sewed up and the leg put in a plaster-of-Paris spica with extension. The condition of this patient has markedly improved since she came under observation. Her opsonic index before tuberculin treatment was begun was 0.94 and is now 1.17.

CASE 3.—E. G., female, aged 4, has left hip disease, and is being treated with plaster-of-Paris spica to the ankle and extension. Her opsonic index before the injections of tuberculin was .84. This has been raised to 1.2.

Each of these three patients had but four injections of tuberculin, 1/1000 mg. being given at each time at intervals of about ten days. This rise in the index has been accompanied by a noticeable improvement in Cases 2 and 3, much more decided than had been noted at any previous time.

The third group of six cases selected indiscriminately has been taken as a fair representation of those patients who have had the advantages of country air and the best of hygienic and dietetic care. These include four cases of hip-joint disease, one of the knee joint and one of Pott's disease (9th dorsal). One of these patients, J. K., female, aged 14, with left hip disease, has two discharging sinuses. These patients have been cared for in the country (Southampton, L. I.) for the past four months. The general appearance of each patient demonstrates the beneficial results derived from the sojourn in the country, and with but one exception their opsonic indices are comparatively high, ranging from 0.7 to 1.40 as follows: .74, .86, .94, 1, 1.2, 1.40. This exception is the patient cited above having two discharging sinuses, her opsonic index remaining as low as .74, the same as it was three months ago. This case demonstrates the fact already referred to, that patients with secondary infections do not respond to treatment as do those with only the tubercular infections, nor is their opsonic index as high.

Though the work outlined in this paper has not extended over a sufficient length of time to prove some points which still remain unanswered in regard to the value of the opsonic index and tuberculin in relation to orthopedics, nevertheless the following conclusions may be drawn:

1. Tuberculin in small doses at proper intervals is of undoubted value in the treatment of selected cases of tuberculous bone and joint infections.

2. The rise of the opsonic index is accompanied by an improvement in the local and general conditions of the patient, if no secondary infection exists.

3. The opsonic index will prove of value in determining the advisability of discontinuing mechanical treatment.

4. The opsonic index is of value in determining the prognosis in tuberculous bone and joint disease.

5. While there are discharging sinuses and mixed infections the opsonic index may be raised by the use of tuberculin, without an accompanying improvement of the general or local conditions (specificity).

We wish to express our thanks to Dr. H. L. Taylor and to Drs. V. P. Gibney and Royal Whitman, from whose hospital services these cases have been taken. We also thank Dr. C. E. Preston, house surgeon to the Hospital for Ruptured and Crippled for his cooperation in the work.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA.

NICHOLAS SENN, M.D.
CHICAGO.

(*Continued from page 38.*)

X. MEDICINE IN LA PAZ.

La Paz is on the very frontier of civilization, and is so much isolated from the outside world that we naturally would expect the practice of medicine in this city to be in a somewhat crude state, and far behind the wonderful progress made by the medical profession in more favored parts of the world during the last fifty years. The progress of the science and art of medicine and surgery, which has had its origin in the great medical centers of the world during the last half century, has spread like an irresistible wave over the entire civilized world, where it has uprooted old theories and planted the seed of modern rational medicine. This wave has reached the hermit republic, but for obvious reasons has not wrought the changes which are so apparent in countries in closer touch with the men who have replaced empiricism by reason and have substituted scientific research and facts for blind faith and superstition in the study, teaching and practice of medicine. We who have been in the habit of visiting from time to time the well-equipped laboratories and palatial hospitals of Europe and of our own country, are prone to forget the difficulties under which our colleagues labor who are practicing their profession under less propitious circumstances.

Having seen hospitals the world over, large and small, good and bad, I am more interested in the hospitals in far out-of-the-way places than in the model hospitals in our own medical centers, because in the former case our colleagues have to battle with difficulties the nature and extent of which he only can appreciate who has seen them at work. The surgeon who does his work in a modern well-equipped hospital provided with every possible means for carrying out aseptic precautions, with trained nurses at his disposal, who prepare his patients, and hand him instruments, ligature and suture material, on the asepticity of which he can rely, and who is assisted in his operations by young, competent physicians who at any time could step in and take his place at the operating table, has an easy berth compared with the one who must perform his operations surrounded by the most primitive conditions, and who has no one with whom to share his responsibilities, and no one to render him intelligent, reliable assistance. It is in poor communities on the outskirts of civilization, where the surgeon's ability and self-reliance are put to the severest test. In the former case fully one-half of the battle is fought by the well trained, wide awake, conscientious female nurses, one-fourth by the well-educated competent assistants, and the balance by the much-favored operator who, however, is only too often inclined to place the whole victory to his own credit.

It would do these self-confident surgeons who have seen nothing but the best phases of surgery, good to look into some of the most primitive hospitals of South America, as I have seen them, and then they would be in a better mental attitude to appreciate the value of their own work, the advantages they enjoy, and the excellence of the service rendered them by their nurses and assistants. Such an experience would be well calculated to teach them how much surgery is indebted to modern hospital construction, trained female nurses and competent assistants, and estimate at its true worth the merit of their own work. I have often admired the courage, self-reliance and ability of surgeons who have to perform the most difficult operations under circumstances well calculated to make the most experienced surgeon from medical centers, feel and realize his utter helplessness. We often learn more from shadows than the light, and I have seldom left a hospital, no matter how simple and poor it may have been, without having learned something. The poorer the hospital, the greater are the demands on the limited means and resources of the staff, and under such conditions the visitor often receives valuable hints in the simplification of aseptic technic, and the proper use of very few instruments in performing the most difficult operations.

The present population of La Paz is 90,000. It is safe to make the statement that of the inhabitants at least 75 per cent. are Indians, who never expect to pay for medical services. The income of the physicians of the city is derived, therefore, from about 25 per cent. of the population, which would be about equal to one of our cities with a population of 22,500. The sick and injured are cared for by twenty-eight practicing physicians, all South Americans with the exception of Dr. Adolf Stoecker, a German, and graduate of a German university. Besides these there are five dentists and ten midwives, the obstetric practice being largely in the hands of the latter. The professional tone among the physicians appears to be good, and clique combinations are unknown. Three bolivars ($1.20) is the usual fee for an office consultation or visit in the city. The fee for operations is correspondingly low. Dr. Stoecker has practiced in this city for the last ten years, has a large practice, and his clientele includes some of the best families, but his yearly income does not exceed 12,000 bolivars ($4,800), and he has next to the largest income of any medical man in the city.

La Paz has a national university, of which the medical college is the medical department. Another medical school of Bolivia is connected with the University of Sucre, the real capital of Bolivia. The La Paz Medical College has an attendance of less than fifty. The students must show evidence of a good preliminary education before they are permitted to matriculate in the medical school, and must study medicine seven years before they can come up for the final examinations. The plan of teaching is based on the French method. The equipments of the school are of the most primitive and plainest kind, and laboratory teaching, such a prominent feature in the modern medical schools, is almost entirely ignored. The greatest stress is laid on bedside clinical instruction. No regular surgical clinics are given. After an attendance of two years, the students must serve six hours a day in a hospital where they follow the service of their clinical teachers; make preparations for and assist in operations, and perform such other duties as are assigned to the internes of our hospitals. This form of clinical instruction is made obligatory for the balance of the course of study. One of the requirements for graduation is the preparation of a thesis which, if found satisfactory, is printed at the student's expense, and is usually given extensive notice in the South American medical press.

MEDICAL SOCIETY.

Bolivia has no national medical society. The defective means of transportation, the great distances and the low fees received for medical services may account for this. The only medical society in the country is in La Paz. The Sociedad Medica de La Paz has an active membership of 21, and 26 corresponding members. Of the active members, all reside in the city of La Paz; of the corresponding members, 18 reside in Bolivia and the remainder in the other South American republics, Italy, Mexico and Cuba. The meetings are held monthly or semi-monthly according as the scientific spirit moves the members. Short papers, presentation of patients, discussion of cases and presentation of pathologic specimens take up the time of the meetings.

MEDICAL JOURNAL.

The *Revista Médica* is the official organ of the La Paz Medical Society, and the only medical journal published in Bolivia. It appears monthly or bi-monthly and has reached the age of seven years. It is published in La Paz and is edited by Dr. Elias Sagarnaga, surgeon major of the Bolivian army, president of the Medical Society of La Paz, professor of the faculty of medicine, surgeon to the Hospital Landaeta, and Dr. Nestor Duran, secretary of the Medical Society of La Paz, attending physician to the Hospital Laaysa, and surgeon in the army. The number for May and June, which made its appearance while I was in La Paz, contains a lengthy report of the surgical operations performed by Drs. Sanjines and Sagarnaga during the year 1906, and a very valuable and extremely practical paper entitled "Practical Notes on Obstetric Therapeutics," by Dr. J. Pon Orfila. These contributions to surgery and obstetrics deserve the attention of a wider circle of readers than can be reached by the local medical journal.

HOSPITALS OF LA PAZ.

La Paz has two general hospitals and a private hospital recently built and owned by Dr. Orfila. In a city founded as early as 1548, and for more than 300 years under Spanish rule, and so completely under the influence of the Roman Catholic church and so much isolated from the outside world, we would naturally expect to find the hospitals not what they should be now, but what they were when they were founded. This is true of the hospitals of La Paz. Through the courtesy of Dr. Stoecker I was given an opportunity to make a very satisfactory inspection of the oldest and largest hospital of La Paz.

LANDAETA HOSPITAL.

This immense structure, built by the Spaniards in the old Spanish style of architecture, was first a monastery in which monks lived and performed their pious functions. When the necessity for a hospital arose, the monks took in the patients as they applied for treatment and cared for them. The number soon increased to such an extent that the space for the monks became inadequate, when the institution was turned over to an order of Catholic sisters, and they have managed it as a hospital ever since. The many adobe tile-roofed, one-story buildings are connected by arched inner porticos arranged around many inner square courts or patios. The central building, constructed in the form of a cross, with high arched ceilings, and the many smaller rooms, resembling chapels, indicate clearly the original purpose of the institution, and that very few changes have been made since the monastery was trans-

formed into a hospital. The many wide doors and open courtyards take largely the place of windows in admitting light and air. The iron cots, plain bedding, tin pails and wash dishes, crude stands, and here and there a rocking chair, make up the furnishings of the hospital. The floors of large red tile are well worn, but are kept clean by the twenty-one Italian sisters who now manage the institution and take care of the sick. There is not a trained nurse in the city of La Paz, and the nursing in the hospitals leaves much to be desired. Separated from the complicated mass of building, of the original monastery by the river which bisects the city, are a number of one-story mud pavilions which are used as an isolation hospital. The hospital has recently made a great improvement by building a small but well-constructed operating room with sky and side light, smooth, painted walls and tile floor, a refreshing sight after a long walk through dim wards and arched galleries. The hospital also has a few private wards with three beds, which are for the convenience of patients who can pay 3 bolivars ($1.20) a day for treatment and care. In one of the two-story buildings the upper floor is occupied by sick soldiers, and comprises the military section, which is in charge of a military surgeon.

In the surgical statistics of Drs. Elias Sagarnaga and Sanjines, referred to earlier in this letter, somewhat detailed accounts are given of 350 cases which came under their observation and treatment during the last year. Incision of abscesses, enucleating of suppurating inguinal glands, contusions, wounds, phimosis, phelegmonous inflammation and fractures and dislocations form the major part of the clinical material. Of the 350 cases, 81 are classified under the head of wounds. Three cases of espandia were operated on by curettement and the Paquelin cautery, and two of these patients were reported as cured. Hernia is operated on by the Bassini method, deep catgut sutures and superficial silkworm gut. The average duration of the operation is said to be twenty minutes, with healing by primary intention. Five cases of lupus were operated on by the Paquelin cautery, and in three of the cases cure was noted as the result. Eight patients with osteomyelitis were subjected to operative treatment, and of these one died from septicemia seven months after the first operation. Sixteen cases of ulcers of the legs are included in the statistics, and the treatment employed consisted largely in scraping and the Paquelin cautery. Chloroform is the anesthetic in general use.

This hospital is old and has all the defects and disadvantages of old age, and yet it has been a great blessing to the community. Its patients have good care, good food, and the best treatment possible under existing circumstances. The sisters, with no knowledge of scientific nursing, have labored faithfully and unselfishly for the benefit of the sick poor with no other reward than the blessed consciousness of having done their duty.

AN UNKNOWN DISEASE.

In this hospital I examined at least thirty cases of a disease hitherto unknown, which is known to the natives as *Espandia*, and which prevails to a considerable extent in Bolivia. The patients were all Indians or half-castes from 12 to 50 years of age. The disease is found in the high altitudes of Bolivia, and attacks natives and mestizos of both sexes. As this hospital, however, is only for men, I saw none of the female patients. Dr. Stoecker, who has had a very extensive experience with patients thus afflicted, and who has studied the disease with great care, says that, so far, its cause and nature remain unknown, as no careful bacteriologic examinations have been made.

The gross pathologic condition consists in a granulomatous process which begins at the mucous or cutaneous margin of the lip—in preference the upper lip. The granulations are pale and glossy, and their breaking down gives rise to ulceration which soon involves the alæ of the nose and the septum, and finally red spots appear on the hard and soft palates, which ulcerate and become perforated. The lymphatic glands are not involved. The destructive process remains limited to the parts mentioned, but causes frightful mutilation of the face, while for a long time the general health of the patient remains apparently unimpaired. The disease is contagious, very chronic and incurable, the patients usually dying after ten to thirty years from some intercurrent disease. The local conditions bear some resemblance to syphilis and lepra, or a combination of these two diseases. In one of the cases the patient had a saddle-nose which hardly could have been caused by anything but tertiary syphilis. Dr. Stoecker gave potassium iodid a long and thorough trial in many of these cases, but the treatment made no impression.

Here is a good opportunity for some competent bacteriologist to search for and discover the microbe of this strange disease, and by so doing to formulate rules for its prevention and a means of cure.

HOSPITAL LAAYZA.

This hospital is devoted to the care of sick women. It is smaller than the Landaeta Hospital, but of similar construction.

NEW GENERAL HOSPITAL.

The building of a new general hospital is now under consideration and Dr. Adan Sanchez has written a series of articles in the *Revista Médica* describing the plans which are proposed for its construction. It promises to be a modern building, and will fill a wide gap in the care and treatment of the sick in La Paz.

CLINICA PRIVADA.

Dr. Sanjines, who spent several years in Germany in completing his medical education, has recently built a private hospital (Clinica Privada) in one of the most desirable parts of the city. The building is modern in every respect, and is well supplied with everything necessary for aseptic surgery and the best care of the sick. The doors of this institution are open to the private patients of other physicians, and the hospital is destined to become the center of scientific surgery in Bolivia.

PREVALENT DISEASES.

The disease which is feared more than any other in this altitude (12,226 feet above sea level) is pneumonia, which is very fatal and is the most common cause of death in people advanced in years. I noticed that the natives wear under their llama wool hats, knit, closely fitting, long-tailed woolen caps, which they draw carefully down over their ears. The reason for this I could not appreciate until Dr. Stoecker informed me that one of the most common acute diseases of Bolivia is a hemorrhagic form of otitis media and bronchitis, which he considers a form of influenza as it appears in this high altitude. Not infrequently this disease proves fatal and in other cases the hearing is permanently impaired. Heart disease is another common affection attributable to the high altitude, and individuals with weak hearts run grave risks in going to La Paz. Strangers who come here with sound hearts find it difficult to breathe on taking the slightest exertion, and it takes at least four weeks before they become sufficiently acclimated to walk up the steep incline of the streets for a block or two without suffering from shortness of breath. Blue lips and bulging eyeballs are common sights on the streets of La Paz. Tuberculosis is very rare in this altitude. Rheumatism and intestinal disorders are common. There are no tropical diseases in La Paz, but typhoid fever and dysentery figure more or less throughout the year in the sick and mortality reports.

Difference in Action of Various Heart Tonics.—R. Friedländer discusses the action of the various heart tonics and gives a tabulated oversight of the indications for their use in the *Therapeutische Monatshefte* for April, 1907. He thus defines the indications for digitalis as, "cardiac defects, heart weakness in young persons;" for digitalis plus caffein, as, "heart defects in older persons, extensive congestions;" for strophanthus as, "heart defects in the aged, heart defects with asthma, dyspnea, agitation, degeneration of the myocardium, fatty degeneration, and coronary sclerosis;" for camphor as, "myodegeneration, heart weakness in case of pulmonary affections, poverty of the blood, dilatation, incipient heart defect, collapse;" for caffein as, "stenosis of the aorta, coronary sclerosis, congestions, heart weakness with pulmonary affections, collapse," and for alcohol as, "spasmodic contraction of the vessels, slight collapse."

Clinical Notes

CAR CONDUCTORS AS DISSEMINATORS OF TUBERCULOSIS.

ALFRED F. HESS, M.D.
NEW YORK.

When riding in the surface cars most of us, no doubt, have inwardly rebelled against touching the transfer tickets handed us by a conductor, who either has just held the entire pad of tickets between his teeth or has smeared the proffered one with his freshly licked fingers. For years I also had regarded this merely as a disgusting trick, but when about two months ago a conductor of markedly phthisical habitus handed me a transfer ticket treated in this manner I thought it worth while to find out whether this nasty practice might not likewise be a dangerous one. Accordingly I at once made a smear from the ticket on a slide which I had with me. On staining this specimen little was to be seen. However, a few mornings later I rode in a car with the same conductor, who, as I now noticed, coughed slightly. The car was an open one, so that he used his hands for support and held his pad in his mouth. A smear made from a ticket this time, when stained with carbol fuchsin and decolorized, showed a few definite tubercle bacilli.

Comment on this condition of affairs seems unnecessary. The deduction is simple. This man, day after day, was distributing tubercle bacilli broadcast among passengers. The remedies for this evil which suggest themselves to me are: (a) Medical supervision of the conductors. There is some such provision on the subway and elevated roads but not on the surface lines (b) A rule forbidding the conductors to contaminate the tickets with their saliva. (c) The employment by each conductor of a chain by which to hang his pad.

154 West Seventy-second Street.

CASES OF GASTRIC AND DUODENAL ULCER WITH PERFORATION.

W. D. HAMILTON, M.D.
COLUMBUS, OHIO.

These patients were in the service of my brother, Dr. Charles S. Hamilton, and myself at Mt. Carmel Hospital this year:

CASE 1.—*History.*—Mr. C. W., aged 49, was admitted to the hospital, May 10, 1907, at 2 p. m.; he walked to the elevator with his physician, Dr. Stanley, who had made a diagnosis of intestinal obstruction. The man, who had little or no fat, had an unusually fine physique. For several days he had been having pain in the pit of the stomach. There was a history of chronic dyspepsia and pain used to come on from one to three hours after food. When the accident occurred, at noon of the day preceding that of admission, he was pitching sheep into a stream. During such a physical effort, he was seized with sudden, severe pain in the abdomen. At first it was general, then under the sternum, later referred to the right shoulder. Dr. Stanley gave him morphin and was at once impressed with the gravity of his case. The pulse was 72, temperature subnormal. His bowels had acted on that day. A cathartic had been given prior to entry but seemed to aggravate his vomiting, which became more frequent and profuse. There had been no result from numerous large enemas which Dr. Stanley had ordered for him.

Examination.—On admission his temperature was 99.4 F., pulse 120 and quick in character; respiration 35. Expression somewhat anxious. A splash sound was in evidence on palpation of the left inguinal area. Rectal digital examination yielded negative results. There was moderate distension and his muscles were generally rigid, though not extremely so. The percussion note, inclined to dulness in the lower abdomen, was resonant toward the epigastrium, while a tympanic note was observed in both epigastric and cardiac areas. The chest was normal and the abdomen generally somewhat tender. A diagnosis, inclined to gastric perforation was given.

Operation.—Twenty-seven and one-half hours following perforation an exploratory median incision below the navel was made. Odorless gas escaped, while turbid fluid was found, especially in the pelvis in considerable quantity. A median epigastric incision showed gas in bubbles and some fluid, but less in quantity. Everywhere, both above and below, flakes of fibrin were to be seen, while discoloration, due to peritonitis, was seen on the anterior gastric wall and lesser curvature. A perforation, valvular in character, was found in a rather inaccessible position near the lesser curvature. That part of the gastric wall was so indurated that sutures were not easy of application. Two rows were employed in the contiguous gastric tissues, however, in such a way as to minimize tension. A portion of an onion-top was picked up on a sponge used for cleansing the affected parts. The cavity was washed out as thoroughly as possible with physiologic salt solution. Blake's tube served a useful purpose in the undertaking. Drains were inserted, one in each wound.

Postoperative History.—Nutrient enemas were alone employed at first. In a few days, feeding by the mouth was guardedly permitted. This was not well borne. The abdomen became a good deal distended, and the patient's condition gave us considerable anxiety. He was soon relieved, however, by lavage and rectal feeding until the distension had subsided. Within ten days after operation, he was convalescent, took some food by mouth and his subsequent convalescence was uneventful and satisfactory. He is now quite well.

CASE 2.—*Patient.*—Mr. J. M. B., aged 28, of Chillicothe, Ohio, was brought by his physician, Dr. Brown, to the hospital, June 27, 1907.

History.—He had had for some years, indigestion so annoying as to compel him to live on a rather rigid diet. He looked as though he had been fairly well nourished, notwithstanding. He had for a long time been subject to pain after eating, and at times his seizures were more pronounced during the night. On the evening before admission, he was seized with sudden, severe pain in the abdomen, as though things had "broken loose." When admitted, eleven hours later, pulse was 100, abdomen somewhat distended. The parietes were board-like. The left flank was resonant, the right was somewhat dull on percussion. Respiration was hurried and shallow. A perforated gastric or duodenal ulcer had been suspected.

Operation.—This was performed without delay and a median celiotomy below the navel was first done. The abdominal cavity contained free gas and turbid fluid in abundance. The appendix was normal. An incision was then made in the epigastrium. On the anterior surface of the first portion of the duodenum, was a perforation, circular in shape, punched out in appearance, and perhaps 1/6 inch in diameter, through which fluid could be seen flowing. The intestine was indurated for some distance about the opening. For its closure, two rows of stitches were inserted. The cavity was thoroughly irrigated with physiologic salt solution, by means of Blake's tube. No drain was used in the upper wound, lest it might jeopardize the line of suture, but in the lower one a rubber tube was carried merely through the parietes.

Postoperative History.—He was fed by the rectum for a time but his progress was not satisfactory. He had mild sepsis for some weeks. He developed infective parotitis, which, fortunately perhaps, did not suppurate. Later dulness having appeared in the right chest, three ounces of pus were aspirated from the seventh intercostal space. In a few days pleurotomy was done with removal of a portion of rib. The drainage proving inadequate, pleurotomy was again done with excision of rib at two other places in the right chest. His convalescence, while slow, was interrupted from this last procedure. He is now greatly improved in every way and is about free from his former physical annoyances. He has gained greatly in weight and strength.

Prompt action on the part of the physicians in attendance made it possible for operative interference to be successfully practiced in both of these cases. The cases show that perforation of a chronic gastric or duodenal ulcer may occur even in those who are, apparently, in fair physical condition.

These chronic ulcers are, no doubt, often present when not suspected. Prolonged symptoms of indigestion should invite careful inquiry, lest some condition relievable by timely surgery be overlooked. Not only should perforation be thought of as a possibility, but the incidence of cancer after gastric ulcer. It is hoped that before long patients with carcinoma of the stomach will be sent to the surgeon before a tumor can be proven by palpation. When a middle-aged or old patient has had sour stomach for some weeks, with great loss of flesh and strength, for reasons not apparent, it is wise to have the anemias excluded and gastric findings scrutinized without delay by an able surgeon so that should an exploratory incision be necessary to complete the diagnosis it can be done; for then it is that partial gastrectomy offers a fair chance of cure.

It is better to insist on an early diagnosis, even though some less formidable condition be discovered, than to have been medically asleep while a savable life was ebbing away. Too often waiting for the tumor means hopeless visceral and glandular involvement when explored.

1 North Fourth Street.

SEPTIC PYEMIA.

LEWIS M. GAINES, M.D.
WAKE FOREST, N. C.

Since the introduction of antisepsis septicopyemia has become a rather rare affection. But cases occur occasionally which are beyond the power of the surgeon to forestall, or the patient may present himself after the disease has made considerable headway. The report of a case therefore is attended with some interest, first, from the comparative rarity of the disease; second, from its very logical pathology, and third, from certain errors in diagnosis which may occur, an example of which appears in the present case.

History.—J. B., male, aged 13, gave an excellent family and past history. Twenty-eight days previously, in playing basket ball, he received an abrasion on his right heel just over the tendo Achillis from having a player step against his foot. An ulcer formed and more or less soreness developed. Improvement however was noted and the wound showed signs of healing, when one night three weeks after the reception of the wound, the boy was seized with a chill followed by a marked rise of temperature with the attending subjective symptoms of fever. He also complained a few hours later of pain in the right ankle joint. At this juncture a physician was summoned and the case was pronounced one of acute articular rheumatism. For six days this diagnosis held sway. At the end of this period the boy was removed to his home a number of miles distant. On the eighth day of the disease I was called in consultation by the attending physician. The boy lay in a semi-stupor interrupted by both delirious and lucid intervals.

Examination.—The patient's right foot and leg presented a high degree of edema. Over the tendo Achillis was a rather superficial ulcerated area the size of a quarter of a dollar. Over the dorsum of the foot the cuticle was raised into one huge bleb filled with slightly turbid serous fluid. Along the edge of the bleb a little fluid oozed through the ruptured cuticle. The leg showed edema as far up as the knee. The surface of the skin was uniformly red. The slightest movement of the ankle was extremely painful. The thigh was not swollen nor was the saphenous vein palpable or tender. Marked tenderness, however, was noted in the popliteal space and along the base of Scarpa's triangle. The inguinal lymph glands were enlarged. The left wrist joint was swollen, red and excessively tender as was also the left shoulder joint. The abdomen was hard and board-like and very tender, making positive determination of the spleen problematical. The heart sounds were replaced by loud blowing murmurs heard over the precordial area and well outside of it. There was a pleural friction rub on the left. Pulse 132, and of fair quality; respiration 26, and rather shallow. The facial expression indicated distress. The tongue was moderately coated.

Subsequent History.—The treatment was solely expectant. Under general stimulation and local antiseptics there was no marked improvement.

On the ninth day examination of the serous fluid in the bleb revealed streptococci. Cocci was present in the urine in such numbers that casts made entirely of them were noted. Cultures of the streptococcus and staphylococcus were obtained from the bleb and the urine. The patient died at midnight of the eleventh day.

As the case stands, complete error in diagnosis would seem unlikely. The focus of infection, and its local extension; the appearance of multiple arthritis; the enlarged inguinal glands; the appearance of acute endocarditis and pleurisy, and the symptoms of grave general intoxication make a picture of dreadful certainty. Added to this is the result of bacteriologic examination. In the beginning of the disease, however, a number of the symptoms might be confused with those of acute articular rheumatism, and it is well to bear in mind such similarity and apply all possible discriminating tests.

GORDON'S PARADOXIC FLEXOR REFLEX AND ITS DIAGNOSTIC SIGNIFICANCE.*

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PHILADELPHIA.

HISTORY.

On Oct. 24, 1904, Dr. Alfred Gordon demonstrated before the Philadelphia Neurological Society a new reflex,[1] namely, extension of the great toe on pressure or irritation of the deep flexor muscles of the calf of the leg. This he claimed was indicative of the motor tract disturbance, and was called by him the "paradoxic flexor reflex." At this time he remarked on an apparent antagonism between the paradoxic reflex and Babinski's sign. In December of the same year a further contribution on the subject by Dr. Gordon followed, in the form of a paper, with presentation of cases, before the same society.[2] At this time he emphasized the importance of the reflex as a sign of diagnostic value, particularly in irritation or early stage of a motor tract lesion.

Gordon's next paper,[3] read before the same society, cited two cases as anatomic proof of the value of his reflex. In one of these cases (localized hemorrhagic pachymeningitis) the clinical findings were verified by operation and autopsy, and in the other case (localized cerebral trauma) by operation. In a fourth paper,[4] read

* Read before the Philadelphia County Medical Society (Central), Oct. 23, 1907.

1. Amer. Med., viii, 23, p. 971; and Jour. of Nerv. and Mental Dis., February, 1905, 123.
2. Jour. of Nerv. and Mental Dis., June, 1906, 415.
3. Amer. Jour. of the Med. Sciences, August, 1907.
4. Jour. of Nerv. and Mental Dis., July, 1907, 430.

at the meeting of the American Neurological Association, May, 1907, Gordon called attention to the frequency of the paradoxic reflex in paresis, which fact is of interest when we consider the infrequency with which Babinski's sign and Oppenheim's reflex are found in this disease and the frequency of motor tract lesions in paresis as revealed by necropsy.

TECHNIC.

For the benefit of those who may not be familiar with the method, I will quote verbatim from Dr. Gordon's first paper:

> The patient may either lie on his back or sit on a chair with the feet (not the legs) on a stool. The feet must be slightly rotated externally; in this position complete relaxation of the muscles of the leg is obtained. The examiner must always place himself to the outer side of the leg; the thenar and hypothenar muscles of his right hand must be placed on the inner surface of the tibia of the patient and the fingers press deeply on the middle or the lower portion of the calf muscles. Sometimes pressure must be combined with lateral movements of the superficial muscles. If the reflex is present, extension of the great toe, or of all the toes, will be noticed.

Extension of the great toe is common to the Babinski, Oppenheim and Shaeffer's antagonistic reflex, as well as to the Gordon reflex, the difference being in the manner of eliciting the symptom. Babinski strokes the sole of the foot, Oppenheim draws a hammer handle along the inner border of the tibia, Shaeffer pinches the tendo achillis, while Gordon irritates the deep flexor muscles of the calf of the leg. Lasarew[5] has also demonstrated that in some instances stroking or pinching the skin over the calf muscles will produce the same phenomena.

CAUSE.

Dr. Gordon offers no explanation for the paradoxic reflex, remarking that it is as difficult to explain as the Babinski reflex. It is probable, indeed, that the explanation of the Babinski sign would be the explanation of any of the so-called paradoxic reflexes.

Various theories have been advanced from time to time to explain the Babinski and Oppenheim reflexes. Pfeifer[6] believes that reflex extension of the toes when the plantar surface is stimulated depends on the presence of an embryonal tract with a cortical center, to which function reverts when the pathway through the pyramidal tracts is impaired. Goldflam[7] bases his theory on the existence of two centers for skin reflexes, one cortical, active normally, the other spinal, acting only when the cortical center is cut off by a motor tract lesion.

CLINICAL VALUE.

To the classical syndrome of motor tract involvement, exaggerated reflexes, muscular rigidity and ankle clonus, various reflexes of the lower extremities have from time to time been added. Of these the Babinski and Oppenheim signs are in most general use. Among others may be mentioned the Bechterew tarsophalangeal reflex,[8] the Bechterew-Mendel dorsal foot reflex[9] and the Shaeffer antagonistic reflex. To add another reflex having the same clinical significance would be useless, did two or more of those mentioned occur in every case. Every clinician knows, however, that the symptoms most constant in motor tract disturbance, increased reflexes and muscular rigidity, are not infrequently found in functional disorders, and that ankle clonus, Babinski's and Oppenheim's signs may be absent with a true organic, motor tract lesion. Each additional reflex, therefore, which indicates motor tract disturbance and may be present to the exclusion of other positive signs, becomes of undoubted semiologic value.

Besides its importance as a sign of disturbance of the upper motor segment, the Gordon reflex is of value as a delicate sign, being commonly found early in the history of the lesion or when the involvement is slight. That the reflex may be present in association with the exaggerated reflexes, but without ankle clonus, Babinski's or Oppenheim's signs, has been demonstrated, four such cases, all with cerebral lesions having been reported before the Philadelphia Neurological Society.[10] To these I take pleasure in adding a fifth case, one of spinal trauma:

CASE REPORT.

History.—P. B., male, aged 30. On May 17, 1907, patient received an injury to his back through the derailing of a train. The car in which he was riding overturned, throwing him against one of the chairs, the top striking him in the lumbar region to the left of the spine. He did not lose consciousness, was able to crawl out of the car, and during the journey home, walked a distance of about 40 yards, which was accomplished with difficulty, not on account of muscular weakness, but because of severe pain in his back. When seen the same evening, six hours after the accident, he complained of severe pain in the lumbar region and inability to move without suffering. No external signs of traumatism were observed.

Examination.—On examination there was found marked tenderness in the lumbar region, especially in the muscles to the left of the spine. The patient could move both lower extremities at hips, knees and ankle. The knee jerks were much exaggerated. There was no ankle clonus, Babinski or Oppenheim reflex on either side. The Gordon reflex, however, was present on both sides, being especially pronounced on the left side. The right lower extremity was hyperalgesic, while over the left extremity, pain sense was entirely lost anteriorly and posteriorly to the junction of the middle and lower thirds of the thigh, externally and internally to the junction of the upper and middle thirds of the thigh; tactile sensation was present over both lower extremities, but somewhat blunted on the left over an area which could not be definitely determined, but which appeared to correspond to the analgesia. There was no sphincter disturbance and no girdle sensation. No hysterical stigmata were present. When seen the following day, in addition to the symptoms already noted, the patient complained of a sense of constriction about his body, and there was loss of pain sense over the right lower extremity, anteriorly to the junction of the middle and lower thirds of the thigh, posteriorly to the lower border of the popliteal space, externally to the junction of the upper and middle thirds of the thigh and internally to the knee. On the third day after the injury disappearing ankle clonus and Babinski's sign were present on the left side. On the fourth day sphincter weakness had developed, both of bladder and rectum, and weakness of the flexors of the left ankle. After remaining stationary for a few days the symptoms gradually disappeared, the Gordon sign being the last to leave.

I also wish to place on record the following observation: On May 19, 1907, I found the Gordon reflex (on one side only) in a typical case of paralysis agitans, seen in consultation with Dr. Charles Manning. I have since observed the Gordon sign in three of six cases of paralysis agitans examined at the Philadelphia General Hospital. The Babinski reflex was present in three of these cases, in one instance in association with the Gordon sign and in the other instances occurring alone.

1810 Tioga Street.

5. Neurol. Centrbl., April 1, 1906, 291.
6. Monatssch. f. Psych. u. Neurol., December, 1904, xvi, 6.
7. Neurol. Centrbl., Dec. 16, 1903, xxii, 24.
8. Neurol. Centrbl., July, 1904, xxiii, 13.
9. Neurol. Centrbl., April 1, 1906, 293.
10. Jour. of Nerv. and Mental Dis., March, 1907, 205.

AN AIR-TIGHT TROCAR FOR THORACENTESIS.*

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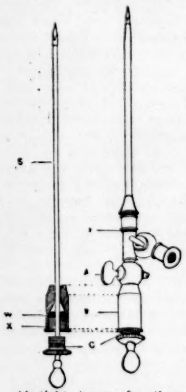
Assistant in Clinical Medicine in the Medical School of Harvard University; Physician to Out-Patients, Massachusetts General Hospital.

BOSTON.

For the evacuation of pleural fluid by aspiration or siphonage a trocar, with lateral outlet, presents certain advantages over an ordinary needle. The needle may become plugged during its introduction into the chest or during the withdrawal of fluid, and must then be removed to dislodge the obstruction if the danger of artificial pneumothorax and possible infection of the pleura are to be avoided. Its unprotected point, moreover, may wound the expanding lung or the diaphragm. A trocar so constructed that air can not enter the chest on the withdrawal of the stilet not only guards against artificial pneumothorax and possible infection of the pleura, but also prevents the exit of pleural fluid from the body of the instrument before a stopcock can be turned.

Of the different trocars now in use Fraentzel's[1] and Potain's[2] are the most satisfactory. Potain's instrument is less cumbersome and more easily cleaned. In Fraentzel's trocar the lateral outlet is protected by a stopcock. In Potain's instrument the stilet passes through a conical tube and an air-tight connection is maintained by contact. Such a joint is insecure and the conical tube may be disconnected accidentally during the withdrawal of the stilet or other manipulation of the instrument.



Air-tight trocar for thoracentesis, one-half actual size.

To combine the advantage of a stopcock on the lateral outlet, as in Fraentzel's trocar, and to obviate the insecurity of a joint by contact of the conical tube with the body of Potain's trocar I devised the trocar here shown.

The addition of a stop-cock to the lateral outlet permits the introduction of the trocar into the chest before it is connected to rubber tubing for aspiration or siphonage. It also allows a change to be made from one apparatus to another during the evacuation, if this is desired.

A small cap C, through which the stilet S passes, can be securely screwed to the base B of the instrument. The accidental detachment of the stilet and its holder is thus avoided. Although the stilet and cap can be removed from the base after the puncture is made and the stop-cock A turned it is an advantage to allow the stilet, withdrawn to its full extent, to remain. The stilet is then less likely to be misplaced or contaminated and can more readily be reinserted to dislodge fibrin or other material which may plug the cannula.

The entrance of air and the exit of fluid are prevented by a rubber washer W. This may be made by cutting a section from a piece of rubber tubing of an appropriate diameter to fit the compartment X and the lumen of which is of approximately the same caliber as the stilet. Owing to the shape of the compartment, the degree of approximation of the washer can be varied at will by the tightening or release of the screw of the cap.

For the cannula an internal diameter of 2 millimeters and a length of 7 centimeters are most convenient. The cannula can be unscrewed (at y) from the body of the instrument and replaced by another of different size. If cannulas of different size are used, to each a separate stilet and cap must be fitted.

* Read at the Clinical Meeting of the Medical Board of the Massachusetts General Hospital, Nov. 22, 1907.

1. Fraentzel: Berl. Klin. Wochschr., 1874, No. xii.

2. The instrument generally known as Potain's trocar is figured and described by Fraenkel (Handb. d. phys. Therap., Part II, vol. i, 1902, p. 438).

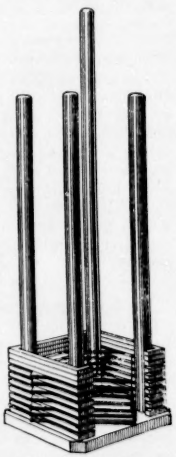
A COVER-SLIP HOLDER.

WILLIAM PEPPER, M.D.

Assistant Professor of Clinical Pathology, University of Pennsylvania.

PHILADELPHIA.

This holder was devised and made to fill the want of a suitable piece of apparatus to hold a large number of cover-slips while staining. It consists of four upright brass posts rising from a flat, square base, each post being securely fastened in a corner of the base, and of some twenty or thirty square bands or hoops of brass fitting snugly around the four posts, part of one side of each band having been cut away. The base should project slightly beyond the four posts, so that the bands when placed over and around the posts will rest on it. Cover-slips, either singly or in pairs, with back to back, can be placed between each band, the corners of the cover-slips projecting between the posts. When in position the cover-slips are a sufficient distance apart to allow the stain to run in between them.



Cover-slip holder for staining a large number of cover-slips simultaneously.

The various stains can be kept in glass cylinders just large enough to receive the apparatus and the loaded holder can be lowered into one of these glasses, tilting the glass as far as posible to one side to let the air bubbles run out through the openings in the bands; these opening should preferably be superimposed one above the other. Cover-slips can not fall out after being placed in position, and there is not the slightest tendency for them to get broken.

The holder shown in the cut is for use with ¾ inch square cover-slips; for larger sizes a larger apparatus would be necessary. It would, perhaps, be possible to construct a triangular holder with three posts for staining round cover-slips, but these are seldom used in blood work, the squares being much better for making spreads.

I have stained spreads in this holder with hematoxylin and eosin very successfully, and even Wright's stain can be used with good results and with a considerable saving of stain. I have put in one glass, pure undiluted Wright's stain, and in another glass the properly diluted stain, and then have transferred the holder from the first into the second. The stain in these two glasses can be used again several times, so that it is possible, with but very little stain, to prepare a great many cover-slips. With this apparatus 35 c.c. of solution is sufficient for staining fifty cover-slips simultaneously.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.)

(Continued from Vol. XLIX, page 1921.)

COLALIN LAXATIVE.

TABELLA COLALINÆ CUM EXTRACTO RHAMNI PURSHIANÆ, CROWELL.

Each tablet is said to contain colalin, 0.015 Gm. (¼ grain), powdered extract of cascara, 0.12 Gm. (2 grains), podophyllin, 0.01 Gm. (1/6 grain).

Dosage.—One to three tablets on retiring or one after each meal.

Manufactured by Rufus Crowell & Co., Somerville, Mass. (Schieffelin & Co., New York).

GUAIACOL CARBONATE COMP.

Guaiacol Carbonate Comp. is the word-mark for the Mulford Co. brand of

CAPSULA GUAIACOLIS CARBONATIS COMPOSITA.

Soft, elastic, soluble capsules, each of which is said to contain: Guaiacol carbonate, 0.09 Gm. (1½ grains); calcium hypophosphite, 0.03 Gm. (½ grain); ichthyol, 0.03 Gm. (½ grain), strontium arsenite, 0.00055 Gm. (1/120 grain), and olive oil sufficient to make 0.3 Cc. (5 minims). The odor of guaiacol that is noticeable in some samples is due to a partial decomposition of the guaiacol carbonate.

Dosage.—One or two capsules three or four times a day, preferably after eating.

Prepared by the H. K. Mulford Co., Philadelphia. Trademark not registered.

MALTZYME.

A preparation essentially equivalent to Extractum Malti U. S. P. and containing 7 per cent. of alcohol.

Maltzyme is a translucent, limpid liquid. One Gm. maltzyme is claimed to have the power to produce from starch, in 30 minutes at 37.8° C., 6 gm. of maltose.

The diastasic power of the preparation may be tested by converting 7.5 Gm. of arrowroot starch, in the usual way into a starch paste measuring 250 Cc., adding sufficient of a 2 per cent. maltzyme solution to produce when finished a liquid containing about 1 per cent. of maltose (about 22 Cc.), and digesting the starch for one-half hour at 37.8 C. The digestion is stopped by adding 3 Cc. of a 10 per cent. solution of sodium hydroxide and the amount of maltose contained in the liquid determined by titration with Fehling's solution. From the amount of maltose found is substracted the amount originally found in the maltzyme added, the difference gives the amount formed in the digestion.

Dosage.—Similar to that of Extractum Malti U. S. P.

Prepared by the Malt-Diastase Co., Brooklyn, N. Y. U. S. trademark No. 46,459.

There are on the market the following preparations containing maltzyme mixed with other remedies:

Maltzyme with Cod Liver Oil is said to consist of maltzyme concentrated and brought back to its original volume by the addition of 25 per cent. of Lofoten cod liver oil. It is said to have the power to produce from starch from 4½ to 5 times its weight of maltose, when tested as described above.

Maltzyme with Cascara Sagrada. Each 30 Cc. (one fluidounce) is said to contain the virtues of 3 Gm. (45 grains) of cascara bark.

Maltzyme with Hypophosphite. Each 30 Cc. (one fluidounce) is said to contain 0.12 Gm. (2 grains) each of calcium sodium, and potassium hypophosphites, and 0.015 Gm. (¼ grain) each of iron and manganese hypophosphites.

Maltzyme with Phosphate of Iron, Quinine and Strychnine. Each 30 Cc. (one fluidounce) is said to contain iron pyrophosphate, 0.24 Gm. (4 grains), quinine 0.06 (1 grain), strychnine, 0.002 Gm. (2/75 grain).

Maltzyme, Ferrated. Each 30 Cc. (one fluidounce) is said to contain 0.5 Gm. (8 grains) of iron pyrophosphate.

Maltzyme with Yerba Santa. Each 30 Cc. (one fluidounce) is said to contain the virtues of 2 Gm. (30 grains) of Yerba Santa leaves.

TAKA-DIASTASE.

A ferment of high diastatic power obtained from a fungus used in Japan for the malting of grain.

Taka-Diastase is prepared substantially as follows: The spores of the fungus in a pure and vigorous condition are sown on sterilized, moist grain or bran. This material is kept under proper conditions of heat and moisture until it is thoroughly permeated by the growth of the fungus. In due course of time the diastase is extracted, precipitated, purified and dried. It is then very finely ground, assayed to determine its digestive power on starch, and adjusted by dilution with milk sugar to a uniform strength.

Taka-Diastase is a white or yellowish white powder having a peculiar taste, which might be denominated a "nutty" flavor. It is almost entirely soluble in cold water and in alcoholic solutions containing less than 25 per cent. of alcohol, but it is precipitated by strong alcohol. It is wholly insoluble in chloroform and other immiscible solvents.

It is incompatible with strong alcohol, alkalies and strong acids. Its activity is destroyed in solution in contact with pepsin or pancreatin after the lapse of three or four weeks.

It is claimed that Taka-Diastase will hydrolize 150 times its weight of starch into dextrins, maltose and dextrose in ten minutes.

For the determination of its diastasic power, the manufacturer uses the following method:

A solution of taka-diastase is prepared by triturating exactly 0.133 Gm. in a small mortar with a little water and transferring to a 100 Cc. measuring flask, washing out the mortar very carefully and adding the washings to the liquid in the flask until it measures 100 Cc.

A standard iodine solution is prepared by dissolving pure iodine, 2 Gm. and potassium iodide, 4 Gm., in sufficient distilled water to make 250 Cc. For the test 1.5 Cc. of the iodin solution is diluted to 1,000 Cc. distilled water.

The starch paste is prepared by bringing to vigorous boiling about 900 Cc. distilled water contained in a tarred vessel. Into this a mixture of neutral potato starch 20 Gm., and cold distilled water, 30 Cc., is poured under agitation. The mixture is boiled with constant stirring for ten minutes, sufficient distilled water is added until it weighs 1,000 Gm. Into a sufficient number of cylindrical flat-bottomed glass tubes, or wide-mouthed bottles, are measured portions, 1.100 Gm. each, of the starch paste cooled to 40 degrees C., the containers closed with the rubber stopper and nearly immersed in water kept at 40 degrees C. When the starch solution has attained the temperature of the bath, 10 Cc. of Taka-Diastase solution, as prepared above, is measured into one of the vessels containing the starch solution, the container closed and shaken vigorously. The container is returned to the water bath and the digestion allowed to proceed, the container being shaken occasionally. When, at the end of ten minutes digestion, one or two drops of the digested solution is transferred to one of the vials containing the dilute iodin solution. No blue color indicative of starch should be produced (a faint reddish or violet tint is taken to indicate that starch is present).

Actions and Uses.—Taka-Diastase is recommended by the manufacturers as a digestant of starchy food in amylaceous dyspepsia and derived complaints.

Dosage.—0.16 Gm. (2½ grains) to 0.3 Gm. (5 grains) or more, according to indications, during or immediately after meals.

Manufactured and sold by Parke, Davis & Co., Detroit, Mich., through contract with the Takamine Ferment Co. U. S. patents Nos. 525,820, 525,823, 525,824, 826,699 issued to Takamini Ferment Co. The word "Taka" has been registered as a trademark in the United States for taka-diastase and diastasic substances by the Takamine Ferment Co.

(To be continued.)

Metabolism in Gout.—T. Brugsch and A. Schittenhelm sum up the final results of their extensive researches on gout (*Zeitschrift f. ex. Path. u. Ther.*, vol. iv, p. 557), as follows: The gouty individual shows an anomaly of the metabolism of nuclein. This consists in: 1. An increase in the amount of endogenous uric acid in the blood. 2. A diminution in most cases below normal in the amount of uric acid in the urine. 3. The metabolism of exogenous uric acid is deranged. The excretion of uric acid is diminished and delayed with relative increase of excretion of the purin bases. These derangements are not to be referred to imperfect renal function, but to a disturbance of the whole metabolism of the purins which is to be characterized as a diminution of the formation of both endogenous and exogenous uric acid combined with diminished destruction of uric acid. Finally the authors show that by sparing the powers of the system for forming and destroying uric acid these powers may, as in the similar case of diabetes, be favored and increased. These investigations show the fallacy of all those theories of gout which make derangement of the function of the kidneys a cause of gout.

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THE TOXEMIAS OF PREGNANCY.

Especially through the establishment of the pathologic anatomy of the condition, a general agreement has been reached that puerperal eclampsia must be included among the diseases caused by toxic materials of unknown origin and nature, and that it is not so closely related to ordinary uremia as it is to such a distinctly toxemic condition as acute yellow atrophy. More recently it has become recognized that certain of the cases of pernicious vomiting of pregnancy are of similar nature, this fact having been established through the valuable studies of Williams.

In acute yellow atrophy, which is so frequently to be considered as a toxemic result of pregnancy, we have, as is well known, extensive necrosis in the liver, beginning in the centers of the lobules and spreading outward, while the clinical manifestations are those of a profound toxemia. Puerperal eclampsia is also accompanied by extensive degenerative changes in the liver, but here the necrosis begins in the periphery of the lobules, is associated with fibrinous capillary thrombi, and the well-known extensive renal changes are also a striking feature. In fatal cases of pernicious vomiting of pregnancy of toxemic origin, in distinction from those of reflex or neurotic origin, profound necrosis of the liver cells, beginning in the center of the lobule as in acute yellow atrophy, is a conspicuous feature.

Thus we see that there exists a close relationship between these three varieties of toxemic complications of pregnancy, which suggests that their causes are similar if not identical, however much they may differ in clinical features.[1]

We are still entirely in the dark as to the nature of the poisonous substance or substances that cause these toxemic conditions, although several hypotheses have been advanced during the past few years. There seems to be a fair agreement that the placenta must be the source of the toxic material, especially as typical cases of eclampsia and of pernicious vomiting have been observed in patients with hydatid mole, in which cases, of course, toxic matter of fetal origin could be eliminated; furthermore, eclampsia may appear after the fetus has been removed. Much attention was, therefore, given to the hypothesis elaborated about four years ago by Veit, Weichardt and others, that through the entrance of placental cells into the circulation of the mother an intoxication was caused, either by the disintegration of the cells and formation of toxic substances, or in the development of anti-substances by the maternal organism. In spite of much experimentation and discussion, however, no satisfactory conclusions have yet been reached concerning the validity of this hypothesis, and Martin[2] has secured some very valuable evidence that, at least in rabbits, entrance of their own placental elements into the circulation in large amounts does not cause any serious disturbance. Although there are numerous features suggesting the action of a hemolytic poison in eclampsia, and Liepmann claims that the placentas of eclamptics possess peculiar toxic properties, Ewing[3] could find no evidence that such placentas contain hemolytic substances, or that hemolysis occurs in eclampsia.

Zweifel has enthusiastically advocated the theory that eclampsia is due to poisoning with sarcolactic acid, which he found in the blood and cerebrospinal fluid of eclamptics, but this idea is undoubtedly erroneous. Lactic acid possesses no toxicity beyond that due to its acidity, and the minute amounts present in the blood and secretions of these patients could by no means cause the symptoms observed in eclampsia, which are, furthermore, essentially different in character from those of acid intoxication. There is, however, always present in any condition associated with convulsions or other forms of violent muscular exertion an excessive formation of sarcolactic acid in the muscles, and this may appear in the urine, especially when the oxidizing power of the liver is impaired by destructive lesions; but this urinary lactic acid is the result, not the cause of the convulsions. It can safely be considered to be the result of a combination of increased muscular and decreased hepatic activity, the impaired function of the liver in these conditions being also shown by the production of alimentary levulosuria,[4] and by the appearance of glyoxylic acid in the urine (Hofbauer[5]). Consequently a certain degree of acidosis is present in these toxemias of pregnancy, but it is not to be considered as the causation of the intoxication.

Williams has called attention to the value of this acidosis in distinguishing between the pernicious vomiting due to toxemia and that due to neurotic or reflex causes. In acidosis the organic acids are eliminated in the urine combined with ammonia; consequently the proportion of the urinary nitrogen that exists as ammonia is a guide to the degree of acidosis. Normally, from 3 to 5 per cent. of the urinary nitrogen is in ammonia compounds, and Williams considers that when

1. Much of the best work on these topics has been done in this country; take, for example, the important papers of Williams in Johns Hopkins Hosp. Bull., 1906, xvii, 71, and in Amer. Jour. Med. Sci., 1906, cxxxii, 343, and those of Ewing in the Amer. Jour. Obstet., 1905, li, 145, and 1907, lv.

2. Monatsschr. f. Geb. u. Gyn., 1906, xxiv, No. 5.
3. Trans. Soc. Exp. Med. and Biol., 1907, iv, 113.
4. Schröder, Zeit. f. Geb. u. Gyn., 1906, lvi, 134.
5. Zeit. f. physiol. Chem., 1907, liii, 425.

in a patient with pernicious vomiting of pregnancy the ammonia nitrogen exceeds 10 per cent. it may be assumed that the condition is of toxemic origin and that the prognosis is bad unless the uterus is emptied at once. These studies indicate the necessity of careful examination of the urine in all cases of severe vomiting in pregnancy for the proportion of ammonia nitrogen, an operation that has been much facilitated by the introduction of Folin's simplified methods of quantitative study of the urine.

THE DEATH OF NICHOLAS SENN.

With the death of Nicholas Senn on January 2 there passed away a grand and leading figure in contemporary American surgery. The story of his remarkable rise by virtue of exceptional native ability, industry and tireless labor from country practitioner in Wisconsin to professor of surgery in Chicago and metropolitan surgeon of world-wide reputation, loaded with honors and distinctions of all kinds at home and abroad, is told elsewhere in this number.

Here we shall attempt to outline briefly his principal services to surgery and the medical profession and thus to humanity. Of the prodigious amount of surgery done by Senn in hospital and private practice he left no adequate record in the form of analytical studies of series of cases or of reports of interesting isolated observations. Suffice it to say that during the zenith of his surgical activity—about 1888-1902—his public surgical clinic was one of the very largest and richest in the whole world, and that he used the enormous material thus available for the teaching of surgery by amphitheatrical methods to students and practitioners, the latter flocking to hear and to see him in large numbers from all sections of the northwest as well as from more remote parts. No teacher of clinical surgery by this method, now considerably curtailed, ever enjoyed greater popularity, and it is probably safe to say that he had the opportunity to influence by direct, personal example the surgical standards of a larger number than any of his American contemporaries. The physical and mental endurance displayed by Senn in his public clinics, which often lasted far into the evening, always excited the wonder of his hearers. Although prevented by his clinical responsibilities, of which he assumed a larger share than perhaps was necessary, from giving as much personal attention as he wished to the anatomic and bacteriologic study of the materials from his clinics, he was one of the first to make the laboratory an essential part of the surgical clinic. As a clinical teacher he was clear, forceful, dramatic; as an operator he was highly skilled, unexcelled in plastic work. While his services as a great teacher of clinical surgery and as a great surgeon will not soon be forgotten in the northwest, especial emphasis must be given to his real pioneer work in teaching modern surgical pathology. The lectures which he gave in Chicago each winter during the years 1886-1890 on inflammations, surgical infections and similar topics, giving as they did the latest advances in bacteriology and pathology, exercised a stimulating influence to a degree that it is now difficult to understand. The lectures were, however, the first systematic presentation of the subjects in question in the light of recent discoveries, and consequently they gave to the hearers a vivid insight and a keen interest in the stirring events in the larger scientific world with which the ordinary teaching of that day in Chicago, as elsewhere in this country, as yet had but little in common. Subsequently the lectures were given to the public in modified and enlarged form in various books published by Dr. Senn, two of which, his "Principles of Surgery" and "Surgical Bacteriology," though largely compilations, nevertheless coming at the time they did, proved very useful indeed in interesting the rank and file of the profession in the newer developments. It is doubtful if any of his numerous subsequent books really did as much good as these two. Senn's watchword was: *"Work, uninterrupted, hard, faithful, honest work,"* and now at the close we realize in looking back at what he did during the most active period of his career how perfectly he must have followed this strenuous injunction even long before he sprang into notice as a teacher in Chicago. His services to military surgery are recounted elsewhere in this number.

From the beginning of his professional career Senn manifested an unusual and remarkable interest in experimental investigations, which culminated in a series of most important contributions to experimental surgery, especially abdominal, during the decade of 1880-1890. It will be recalled that he introduced decalcified bone plates for intestinal anastomosis and developed many other clever devices; that he used hydrogen gas to test the intactness of the digestive tract after gunshot injuries of the abdomen; that his experiments on the pancreas demonstrated the feasibility of surgical interference in a number of well-defined lesions of that organ, and that he made valuable experiments on the closure of vessels after ligation, on the treatment of fractures of the neck, of the femur and of other bone lesions. While the new facts discovered by these experiments may not have been of revolutionary importance, yet these investigations proved of the greatest value to surgery. They gave a lasting impetus to the progress of abdominal surgery because they taught the great lesson that proficiency in abdominal surgery can only be acquired by operating on living tissues. "Another great advantage," says Senn in an address in 1887, "only to be acquired by operations on animals is dexterity in the use of instruments and delicacy of manipulation in the performance of difficult operations. Visceral surgery can be learned only in this manner. Operations on the gastrointestinal canal should invariably be practiced on animals before attempting them

on man. A course in operative surgery on the cadaver is utterly inadequate to prepare a student sufficiently to perform gastrotomy, intestinal resection, or even to apply intestinal sutures with requisite speed and accuracy. . . . Ligation of the arteries in continuity, again, is another operation in the technic of which you can only perfect yourselves by practicing on animals." Because of the emphasis thus placed at that time on the value of operations on animals in teaching human operative surgery it is not too much to say in the light of subsequent developments that Senn's experimental work has proved to be of fundamental importance.

Having spoken of Senn's great services as surgeon, as clinical teacher, as pioneer in the teaching of modern surgical pathology and in experimental surgery, there remains to make some reference to his deeds as a public benefactor. To the medical profession of Chicago he gave the magnificent collection of books known as the "Senn collection" and now part of the medical department of the John Crerar Library; to Rush Medical College he gave as his largest single donation $65,000 toward the new clinical building. As an encouragement to surgical literature he offered a gold medal for the best essay on a surgical subject, to be awarded annually under the direction of the Section on Surgery and Anatomy of the American Medical Association. These are evidences of a noble generosity for which coming generations will be thankful. Senn often publicly expressed the desire that he might be able to contribute something to the upbuilding of medical science. This most worthy object of a high ambition he realized and his name will live in medical history.

SCHOOL LIGHTING.

The importance of the proper lighting of schoolrooms is so apparent that the problem has engaged the attention of architects and teachers as well as of physicians. If the lighting be artificial, as must of necessity be the case for much of the school work done in large cities, the problem becomes more complex. The work of the pupil requires conditions of illumination somewhat different from those suitable in a large hall for lectures, etc. The lighting must be so arranged as to avoid brilliant points of light, not to produce too deep shadows, and to furnish illumination sufficient for near work. The best lighting appears to be a combination of the direct method with indirect reflection from the ceiling and walls. A committee of oculists and electricians appointed by the Boston School Committee, in April, 1907, to consider the artificial lighting of the public schools and their color schemes has lately presented its report.[1] This report, advance pages of which have been sent us, embodies the results of a thorough investigation of the question, including visits to various cities, both American and foreign, and a considerable amount of experimental work. It is a document that ought to be of service to those interested in the subject in other cities as well as Boston.

The committee has investigated the conditions in the Boston schools and has found the illumination to be insufficient for good work. The prevailing system is one of indirect illumination by means of electric light. The committee finds certain defects inherent in the indirect method of illumination, of which the principal are that it secures too uniform illumination of near and distant objects. While too great contrasts are undesirable, a slight preponderance of illumination as regards nearer objects is favorable to good work. Indirect illumination does away with shadows, which enable us to judge of distance and relief, and produces the psychologic effect of insufficient light. Experiments have shown that with indirect illumination the amount of light necessary for comfort in reading must be 65 per cent. greater than that necessary with direct.

While the system in vogue gave a good amount of light when recently put in, it was found that the fixtures were with difficulty kept clean; consequently the amount of light thrown on the ceiling and walls was much diminished, and the lamps deteriorated rapidly so that they gave much less light than at first. It was also found that the tint of the walls and woodwork was in many instances too dark, and that, although shades were provided for the windows, they were often not in use, thus rendering a large part of the reflecting surface unavailable. According to the opinion of the committee, blackboards constitute an anachronism in the schoolroom and affect the lighting problem by absorbing a considerable amount of light, though not so much as might be supposed, since they are generally covered with a grayish layer of chalk dust. No substitute has yet been found for them and no recommendation is made.

As the result of its investigations the committee recommends a tungsten lamp arranged in clusters so as to distribute the light over the room with the desired uniformity. The minimum illumination at each desk should be two candle feet. The colors of the walls should be adapted to the daylight illumination of the room; for sunny rooms a light green should be chosen, for darker rooms a light buff is more suitable. The woodwork and desks, in all cases, should be of a light color. Suitable window shades should be installed and used in all rooms where artificial light is necessary. Janitors should be required to pay closer attention to the cleaning of lighting fixtures and the dusting of the window shades.

The investigation and report of the committee will go far toward furnishing a solution of this important question, and its work should receive widespread attention from physicians and school officers.

1. School Document No. 14, 1907, Boston: Municipal Printing Office. The medical men on the committee were Drs. George S. Derby, F. J. Proctor and Myles Standish.

V 50
1908

THE COMBATING OF PLAGUE.

The valuable observations of the India Plague Commission were recently referred to as demonstrating that the flea is an important factor in the transmission of plague from rat to man,[1] and in all probability the only essential one in the propagation of the disease in epidemic form. The belief in this method of transmission had previously been confirmed by numerous epidemiologic observations in different parts of the world, and has had an important influence in the adoption of measures for the prevention and suppression of the disease.

It is evidently becoming more and more recognized that man plays a relatively unimportant part in the propagation of plague, and that measures taken with respect to him and his personal effects can influence the spread of the disease only to the same proportionately limited extent. Scientific experiments and practical observation have also shown that ordinary disinfection alone of infected areas and houses (cleansing and use of disinfecting solutions) is in itself not efficient in preventing the disease, as cases have continued to occur in houses after the careful enforcement of such procedures.

In view of our present knowledge, it is believed that measures directed toward the destruction of rats are the most rational, and if successful would result in the prevention of plague in man. Experience, however, has shown that this is an extremely difficult undertaking, and that it must be supplemented by other measures, including the abatement of conditions which attract vermin. It is known that such conditions are more prevalent in the overcrowded and unhygienic sections of cities, and, because of their influence on the rat population, in all probability account for the undue prevalence of plague in such areas.

The suppression of other insect-borne diseases involves the exclusion of the carrying agents from human habitations as well as their destruction. This appears to be true also of plague, as the rendering of houses rat-proof has been found to be of the greatest value in combating the disease both in this country and abroad.[2] In the previous outbreak of plague in San Francisco this measure, while expensive and slow of accomplishment, was recognized as the most important taken as a means of protection against infection, and it is understood that it is now being actively carried out by the United States Public Health and Marine-Hospital Service on the Pacific Coast. Thompson, who has had long experience with the disease in Australia, also regards this measure as most valuable and the only one which may justly be regarded as preventive, other measures being of a more or less temporary character.[3]

Of no less importance is the depopulation of houses in which plague-infected rats have been discovered, and for the effective enforcement of this measure it is absolutely essential to conduct a systematic examination of all dead rats in localities where plague may occur.

Having instituted all possible measures for the detection of the disease among rodents, the destruction of vermin, and their exclusion from houses and areas, there remains the possibility of immunizing all persons in infected districts against the disease. During the past ten years antiplague inoculations have been practiced, particularly in India, and, according to Haffkine, with excellent results.[4] His experience has been that the use of these inoculations greatly reduces the liability of contracting plague, that they render an attack milder, and that the immunity thus conferred lasts a considerable time.

It thus appears that effective means are available for the eradication of plague from an infected locality, although its accomplishment is necessarily slow and attended with great difficulty. In any campaign of this character the active cooperation of the inhabitants of the infected district is absolutely essential to success. Business interests should not prevent such cooperation, and the public press and other agencies would do well to assume their responsibilities, thus insuring the publicity and interest necessary under such conditions.

1. THE JOURNAL A. M. A., Dec. 27, 1907.
2. Annual Report, P. H. and M.-H. S., 1904, p. 228.
3. The Lancet, Dec. 7, 1907.

SALIVARY DYSPEPSIA.

We commented recently[1] on the common failure to masticate food thoroughly, and called attention to Mr. Fletcher's remarkable powers of endurance, which he claims are due in part to his habit of thoroughly chewing his food. While advice on this subject is easy to give, in comparatively few cases is the advice followed. L. Meunier[2] goes so far as to remark that he considers such advice useless and suggests that the physician must correct the insufficiency of saliva.

He aims to accomplish this by ordering the patient to eat the starchy food of the meal first, before the meat. Starch is digested during the first phase of gastric digestion, and this digestion is checked more or less by secretion of hydrochloric acid. When the carbohydrates are eaten first the secretion of hydrochloric acid is stimulated, and this makes digestion of the starchy foods later more difficult. He also orders that in cooking starch foods they should be made slightly alkaline, as the saliva acts best in an alkaline medium. It is to this fact, he thinks, that the vegetables at Vichy, cooked in the Vichy water, owe their peculiar digestibility. The action of the saliva is also favored by warmth, and thus warm drinks promote the digestion of starch. He advises an infusion of malt for a warm beverage. The germinating barley or malt, put through a coffee mill, makes a palatable and useful infusion. A tablespoonful in a glass of cold water is infused in a double boiler for

4. The Lancet, Dec. 7, 1907, p. 1610.
1. THE JOURNAL A. M. A., Dec. 14, 1907, page 2011.
2. Journal de Méd. de Paris, Oct. 13, 1907.

ten minutes. He adds in conclusion that chewing gum after meals might be useful to induce salivation, like the betel of the Orient and the wad of insoluble resin which veterinarians fasten in the mouth of young horses that eat too fast and have digestive disturbances.

The suggestions, of course, are not new, but they should be borne in mind for use in proper cases. We sympathize with the physician who is tempted to abandon a case and to refuse to take any responsibility concerning it when the patient will not obey hygienic rules and follow the most obviously beneficial procedures. We have to take conditions as we find them, however, and if we can not benefit the patient in one way we may secure at least a part of the desired end by some other method.

LAW AND MEDICINE.

Why is it that the public is willing to entrust the making, interpretation and enforcement of laws entirely to the legal profession, yet is unwilling to entrust any authority for the regulation of public health to the medical profession? This question is an easy one to propound but a difficult one to answer. That this is actually the attitude of the public there can be but little doubt. It can not be due to any essential difference in the personnel of the two professions, since the recruits for each come from practically the same social, financial and intellectual class. It can not be due to difference in training, since the average medical course is far more exacting and protracted than the average course of instruction in law. It can not be attributed to greater confidence in the lawyer as an individual than in the physician, since the individual citizen will unhesitatingly entrust to the physician his life and the lives of those dear to him. Yet when physicians, either individually or collectively, ask for laws for the protection of the people which will give the medical profession a tithe of the power which is voluntarily given to the legal profession for the protection of property, their requests are generally disregarded and their disinterestedness and sincerity impugned. The public never objects to any regulations which the legal profession may make regarding the education of the lawyer, his admission to practice or the disciplining of its own members, yet the same public seems to take the position that physicians are not competent to determine whether or not an individual is worthy of admission to their own profession. In the absence of any other adequate explanation it seems highly probable that one of the principal causes is the lethargy and indifference of physicians themselves, in that they have not heretofore taken enough interest in public questions to justify the public in trusting them with larger authority.

A DEPARTMENT OF SANITATION AND CHARITIES FOR CUBA.

News comes from Cuba that the Consulting Commission, which was appointed by Governor Magoon about a year ago to revise the laws of the Cuban republic, has taken up the question of a rearrangement of the departments of the government, and its first action has been to determine by an unanimous vote that there shall be a separate department of sanitation and charities, the head of which department shall be a member of the cabinet. It will be remembered that a few months ago Governor Magoon issued a decree organizing the National Sanitary Department, which has control of sanitary matters in all the municipalities of the republic. Sanitary affairs in Cuba, before the present American intervention, were in charge of a subordinate bureau of the department of the interior, which had been hampered in its work by political and other influences, but during the period of American intervention this bureau has been operating as a separate department of the government. By another decree, dated November 23, the quarantine service of Cuba has been transferred from the treasury department to the department of sanitation, where it logically and properly belongs. The action of the Consulting Commission, if approved by Governor Magoon, will place Cuban sanitary affairs in a position of authority and independence which will enable it to carry out to the best advantage the large powers and responsibilities which are entrusted to it by the sanitary decree of last August.

PHYSICIANS AND SHORTHAND.

More than one practical yet prominent physician of modern times has insisted that physicians would be very much helped by knowing a system of shorthand and taking their notes in it. Among distinguished English-speaking physicians who have emphasized this is Sir William Gowers, who learned shorthand for his duties earlier in life as a parliamentary reporter, and whose advice, therefore, possibly bears less weight than would otherwise be the case. There is no doubt, however, that more complete notes of cases could be taken than is now possible. Physicians not infrequently find during the course of a patient's illness that more notes at the beginning of the case would not only have helped them to understand the ailment better, but would also have provided excellent material for publication with regard to many cases that now remain unpublished or are published so incompletely as to lack much of their significance. Besides, shorthand notes can be kept with much more assurance of secrecy, and patients who see a physician taking notes in shorthand are more likely to be free with their information, since, as a rule, they are themselves unable to read it and, therefore, consider their confidences more safe. This is more important than might be imagined, for patients often resent the idea of their histories being written out in full in long hand. In the light of this it is rather interesting to realize that to physicians more than to any others the development of shorthand is due. The originators in English of a practical system of stenography are Willis and Shelton. Shelton is rather well known for his contributions to medical literature. It was Shelton's system that was used by Pepys in his famous diary. It is often said that he used a cipher, and the translation of this cipher is sometimes said to

be a triumph of ingenuity. The fact is that Pepys used Shelton's shorthand, with which all those who subsequently saw his diary were unfamiliar, and consequently its contents remained an unsolvable mystery. Just as soon as some one was found, however, who knew the particular shorthand system, then the solution of the supposed mystery of the diary was easy. The whole subject of shorthand in its relation to physicians is interesting as one of those side issues of literary and medical history, which contain many significant details that recent investigations have brought up and that emphasize the wisdom of our forefathers in certain phases of medical development.

A CORONER APPRECIATES HIS DUTY.

Instead of confining himself to a bald summary of the number of cases and the causes of deaths which came under his official cognizance during the year, Mr. Peter M. Hoffmann, coroner of Cook County, has introduced an innovation in his annual report. Contrary to the usual attitude of the ordinary public official, he recognizes that it is the duty of the coroner not only to hold inquests when violent deaths have occurred, but to make suggestions and recommendations which, if adopted, will diminish the number of fatal accidents. Mr. Hoffmann takes up the causes of violent deaths with special attention to the prevention of accidents. He recommends the collection of data showing the condition of the families of employés who have been killed by accident; advises that the city council pass an ordinance regulating the use of gas heaters, and so diminish the number of deaths from this source; urges careful inspection and oversight of passenger elevators—since, as he very pertinently remarks, elevators in our large cities carry more people than are transported by all of the traction systems combined. He makes some rational suggestions regarding grade crossings, gates, flagmen, cold storage plants, etc. It is hardly to be expected that all of Mr. Hoffmann's recommendations will be carried out, but it is most gratifying to see a public official earnestly endeavoring to utilize the information and authority which are placed in his hands for the safeguarding of the lives of the people.

Medical News

ILLINOIS.

Personal.—Dr. J. Clarence Webster, Chicago, has returned from Europe.——Dr. and Mrs. Ora D. Holland and son, Streator, returned December 25 from their European trip.——Dr. Samuel G. Smith, Reddick, was struck with a club, by a boy, December 23, causing concussion of the brain.——Dr. Philip F. Gillette, for two years a member of the staff of the Illinois Hospital for the Incurable Insane, South Bartonville, will return to Elgin, January 16, and resume private practice in his specialty.

Chicago.

Healer Sentenced.—Hugo Hassiepen, a "magnetic healer," charged with practicing medicine without a state license, is said to have pleaded guilty before Judge Scoville, January 3, and to have been fined $100.

December Deaths.—During December there were 2,704 deaths reported, equivalent to an annual death rate per 1,000 of 15.10. Chief among the death causes were: Pneumonia, 447; consumption, 278; heart diseases, 237; and violence (including suicide), 218.

Communicable Diseases.—During the week ended January 4, 114 cases of scarlet fever; 102 cases of diphtheria; 51 cases of measles; 25 cases of tuberculosis and 11 cases of whooping cough were reported to the Department of Health. This shows an increase in measles and typhoid fever and a decrease in scarlet fever.

Hospital Notes.—The Hospital of St. Anthony of Padua is to be enlarged at a cost of $100,000. The addition will include a five-story building 50x115 feet, with a rear wing 38x50 feet. It will be fireproof, with double tile floors.——The cornerstone of the new People's Hospital, Chicago, was laid December 29 with appropriate ceremonies. E. J. Magerstadt, city collector, was chairman, and addresses were made by representatives of the health department, Dr. Isaac C. Gary, founder of the institution, and others.

Mortality of the Week.—During the week ended January 4, 665 deaths were reported to the Bureau of Vital Statistics, 8 fewer than for the corresponding week of last year, but 96 more than were reported for the preceding week. The chief increases in deaths were in consumption, 23; diphtheria, 14; pneumonia and influenza, each 13; heart diseases, 9; nervous diseases, 9; nephritis, 8, and measles, 5. There was a decrease in the deaths from typhoid fever, scarlet fever, whooping cough and bronchitis. Chief among the causes were: Pneumonia, 116; consumption, 67; heart diseases, 56; nephritis, 44; violence (including suicide), 42; nervous diseases, 32; cancer, 30; diphtheria, 23; influenza, 19; scarlet fever, 14; measles, 6; typhoid fever, 3, and whooping cough, 1.

KENTUCKY.

Society Meetings.—At the annual meeting of the Jefferson County Medical Society, held in Louisville, December 23, the following officers were elected: President, Dr. Benjamin F. Zimmerman; vice-presidents, Drs. Charles W. Hibbitt and J. Rawlin Morrison; secretary, Dr. Virgil E. Simpson; treasurer, Dr. John J. Moran; executive committee, Drs. Sidney J. Meyers, Charles G. Lucas and George A. Hendon, and judiciary council, Drs. James M. Ray and J. Garland Sherrill. A new constitution and by-laws were adopted. The chief changes are placing the policy and internal workings of the society in the hands of the executive committee; lengthening the term of office of the secretary to two years; omitting the word "regular" from the clause defining eligibility, leaving the word "reputable"; providing for alphabetical calling for essays from members, giving each two months' notice of his turn to read a paper, a member failing to read when notified forfeiting his place and chance to read, and election of delegates to the state society so that there shall be two elected each year.——At the annual meeting of the North Kentucky Medical Association, held in Walton, December 20, Dr. B. Kniffen Menefee, Walton, was elected president; Dr. Charles W. McCullom, Erlanger, vice-president, and Dr. Otis E. Senour, Union, secretary.

MARYLAND.

Health Report.—The fatal influence of influenza is shown by the report of the Baltimore Health Department for the week ended January 4, in which there were 18 deaths from influenza and 44 deaths from pneumonia, an unprecedented number. The total number of deaths were 271, equivalent to an annual death rate of 23.23 per 1,000.

Communicable Diseases.—No change is reported in the diphtheria situation at the Marine Barracks, Annapolis, and the authorities believe that there will be no further spread of the disease.——Several cases of scarlet fever are reported from Yeoho.——Two cases of smallpox have been reported in Baltimore. Both patients were colored; these are the first cases to be reported in six months.

Personal.—Dr. James C. Matthew, Cumberland, has moved to Spokane, Wash.——Dr. Howard A. Kelly, Baltimore, left December 30 for Oaxaca, Mexico.——Dr. Arthur Wegefarth, Baltimore, has recovered from a tedious attack of typhoid fever.——Dr. Felix Jenkins, Baltimore, slipped and fell December 30, fracturing his right hip.——Dr. Ira Remsen, president of the Johns Hopkins University, read a paper this week before the Association of American Universities, at Ann Arbor, Mich., on the "Dissertation of a Doctor of Philosophy."

MASSACHUSETTS.

Influenza Epidemic.—After a rather unusually healthy summer and fall, Boston has been experiencing an epidemic of influenza and consequent death rates of 23.19, 24.22 and 25.59 per 1,000. The largest mortality has been among people over

60 years of age, and pneumonia during the last three weeks has caused 53, 60 and 58 deaths, respectively.

Naval Hospital Enlarged.—If the recommendations of Surgeon-General Rixey are adopted, the Naval Hospital on the banks of the Mystic River, Chelsea, will be enlarged at an expense of $200,000. Last year 813 patients were treated there, a large proportion of the cases occurring among the marines returned from Panama, where many contracted malaria.

Health Report.—For the ten weeks ended December 28, there were reported 2,303 deaths, as against 2,113 last year, an increase of 190. This makes an annual death rate of 19.62 per 1,000. Of diphtheria there were reported 552 cases, with 30 deaths; of scarlet fever, 412 cases, with 1 death; of typhoid fever, 88 cases, with 15 deaths; of measles, 200 cases, with 3 deaths; of tuberculosis, 486 cases, with 198 deaths, and of smallpox, 1 case. There were 355 deaths from pneumonia; 1 from whooping cough; 293 from heart disease; 76 from bronchitis; 35 from marasmus.

Institutions Estimate Appropriations Needed.—Nearly all the state charitable institutions ask the legislature, just assembled, for considerable increases in the amounts appropriated for the coming year. Thus: Danvers Insane Hospital asks for $270,000; Foxboro Hospital (for dipsomaniacs), $95,000; Hospital for Epileptics, $149,000; Medfield Insane Hospital, $369,200; State Colony for Insane, $105,000; Taunton Insane Hospital, $228,850; Westboro Insane Hospital, $235,880; Worcester Insane Hospital, $26,500; Worcester Insane Asylum, $211,000; School for Feeble-Minded, $246,991; State Board of Insanity, $202,400, and State Board of Health, $136,500.

Health of Boston Improving.—Advance figures regarding the health of the city during 1907 showed marked improvements. During the year there were reported 2,366 cases of diphtheria, with only 140 deaths; 2,559 cases of scarlet fever, with 40 deaths; 1,347 cases of measles, with 28 deaths, and 519 cases of typhoid fever, with 64 deaths. This is a 50 per cent. gain over the average mortality for measles and typhoid fever for the past ten years, and is the best record as to diphtheria and scarlet fever since 1878. The number of cases of scarlet fever, however, was more than double that recorded in any year in the last decade. Four cases of leprosy and seven of smallpox were discovered. None of these resulted fatally.

NEW JERSEY.

Bequest.—By the will of George Freitag, $5,000 is devised for the erection of a hospital in Egg Harbor City.

Personal.—Dr. Nelson Ingram, Atlantic City, narrowly escaped death in quicksand, near his home, December 22.——Dr. Charles M. Freeman, Metuchen, is reported to be critically ill with pneumonia in the Boston Hospital.——Dr. Henry D. McCormick, Verona, has taken the place of Dr. William H. Hicks, first assistant physician at the Overbrook Hospital, during his vacation.

Anatomic Society Incorporated.—The Essex Pathological and Anatomical Society has been organized in Newark by Drs. Theodore Teimer, Julius Levy, David A. Kraker and Mr. A. M. Basivize. The express objects of the association are "For the purpose of pathologic and anatomic study, and for the advancement of medical science by taking, removing, dissecting and examining dead human bodies."

Typhoid Situation.—Despite the precautions of the local and state boards of health, typhoid fever continues to increase in Trenton, and during December 85 cases were reported. The Delaware River is believed to be responsible for the prevalence of the disease.——Typhoid fever continues to prevail in Burlington and at present more than 20 cases are under treatment. The cause of the epidemic is said to be the water supply which is derived from the Delaware River.

Newark Medical League.—At the meeting of the Newark Medical League, December 9, Dr. Willy Meyer, New York, gave an interesting address on "Bier's Hyperemic Treatment." He first spoke on acute mastitis as representing the type of acute diseases in which the Bier treatment can be applied, and then described the use of the method in chronic diseases, choosing chronic tuberculosis of the knee; Dr. Meyer was afterward the guest of honor at a dinner tendered by the members of the league.——At the annual meeting, December 23, the following officers were elected: President, Dr. David A. Kraker; vice-president, Dr. Herbert W. Long; secretary, Dr. Louis Weiss (re-elected); treasurer, Dr. Edwin Steiner, and reporter, Dr. Julius Levy.

NEW YORK.

Hospital Notes.—Arlington Infirmary has been established at Rome, with accommodation for 50 patients. The physicians in charge are Drs. William B. and George C. Reid, and J. Orley Stranahan.

Smallpox in Kingston.—Owing to the presence of about 80 cases of smallpox in Kingston, the health board has ordered all places of amusement and public halls closed for two weeks and the public schools for four weeks.

New York City.

Harvey Lecture.—The fourth lecture in the Harvey Society course, delivered at the New York Academy of Medicine building, Saturday evening, Jan. 11, 1908, at 8:30 o'clock, by Prof. Ernest H. Starling of the University of London, is on "The Chemical Control of the Body." All interested are cordially invited to be present.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending December 23, 426 cases of scarlet fever, with 22 deaths; 347 cases of diphtheria, with 30 deaths; 346 cases of measles, with 26 deaths; 308 cases of tuberculosis, with 191 deaths; 42 cases of typhoid fever, with 18 deaths; 6 cases of cerebrospinal meningitis, with 6 deaths; 3 cases of whooping cough, with 2 deaths; 123 cases of varicella and 2 cases of smallpox, a total of 1,603 cases and 295 deaths.

New York's Births and Marriages Increase, and Deaths Decrease.—The report of the Registrar of the Department of Health for the year just closed shows that there were 120,636 births reported in 1907, as against 111,772 in 1906. The rate during 1907 was 28.15 per 1,000, a gain of 1.24. This gain is far above that of London and 40 per cent. more than that of Paris. There were 51,097 marriages, as against 48,355 for 1906. The death rate for the year was 18.48, as against 18.35 in 1906.

Death Rate Increases.—The death rate for the week ended December 28 was 20.59 per 1,000 per annum, as against 19.37 for the same week of last year. There were 1,690 deaths for the above-named week, as against 1,558 for the same week in 1906. Heart disease continues to show the principal increase, as there were 187 deaths from this cause as compared with 150 for the corresponding week of last year. Deaths from pneumonia increased to 334, as against 304 for the corresponding week of last year.

Woodbury Corporation Convicted.—The John H. Woodbury Dermatological Institute, and Robert Buggeln, its president and co-defendant in the action, were found guilty by the Court of Special Sessions of misdemeanor, because the corporation advertised to practice medicine without being duly registered as a physician. Justice Duel said that this decision would have a sweeping effect on incorporated hospitals, sanatoriums and medical institutions and allied corporations doing business on the strength of the employment of licensed physicians. Referring to corporations providing free accommodations for the poor under which licensed physicians work, but which themselves possess no license, Justice Duel said that they held out no alluring bait to catch the dollars of those willing and able to pay for the conversion of plainness or ugliness into beauty. The defendants were fined $100, and the counsel for the County Medical Society will move through the attorney-general's office for the revocation of the dermatological institute's charter.

OHIO.

Acquitted.—In the case of Dr. James L. Holden, Zanesville, charged with forgery, the jury returned a verdict of not guilty, December 20.

Accidents and Illness.—Dr. John H. Goss, Lancaster, was recently injured in a street-car accident, fracturing three ribs.——Dr. William J. Taylor, Cincinnati, is convalescing from a serious attack of osteomyelitis.——Dr. Schuyler O. Giffin, Columbus, fell on the icy pavement in front of his residence, December 13, breaking his right leg in two places.——Dr. Abner H. Andrus, Zanesville, fell on the icy sidewalk, near his house, breaking his left arm at the wrist.

Under the Ban of the Law.—Fraud orders are said to have been issued by the Postoffice Department against the following medicine offices in Cincinnati: Dow's Seven Drug Stores and the Woman's Remedy Company, 621 Main Street; Dr. H. H. McGrath, 1114 Elm Street; Mrs. West Sherman, 424 West Eighth Street; Dr. Elizabeth Francis, 625 West Seventh Street; Dr. Mary Howard, 430 Clark Street; Dr. Annie, 640 West Seventh Street, and Dr. McFeeley, 517 Carlisle Avenue.

V 50
1908

Personal.—Dr. John S. Beck has been elected president; Dr. Frank R. Henry, secretary, and Dr. Frank Fife, treasurer, of the Tuberculosis Committee of Montgomery County Medical Society, all of Dayton.——Dr. Benjamin F. Lyle, Cincinnati, has been reappointed superintendent of the Branch Hospital.——Dr. Alexander J. Erwin, Mansfield, has gone to California for the winter.——Drs. J. Morton Howell and Joseph M. Wine have been appointed members of the board of health of Dayton.——Dr. Leroy C. Eberhard has been appointed a member of the board of health of Akron.——Dr. Paul De Courcy has been appointed workhouse physician of Cincinnati.——Dr. Arthur H. Buck, Delaware, has been appointed coroner of Delaware County, vice Dr. Perry W. Willey, Lewis Center, resigned.——Dr. Abraham H. Gorrell has been sworn in as mayor of Zanesville.——Dr. and Mrs. William B. Van Note, Lima, are spending the winter in Miami, Fla.——Dr. Ralph W. Thomas and not Dr. Rolla L. Thomas, as erroneously announced, has been appointed pathologist to the Cincinnati Hospital.——Drs. Christian R. Holmes, Louis Schwab and Asa B. Isham have been appointed medical directors to the Cincinnati Hospital.——Drs. Arch. I. Carson and Robert Stewart have been appointed trustees of the University of Cincinnati.

Society Meetings.—At the annual meeting of the First Councilor District Medical Society, held in Cincinnati, December 12 and 13, Dr. R. D. Francis, Ripley, was elected president; Dr. John P. Miller, Cincinnati, secretary, and Dr. Edwin W. Mitchell, Cincinnati, treasurer.——At the annual meeting of the Eighth District Medical Society, held in Newark, December 6, the following officers were elected: President, Dr. Jerry M. Hyde, Nelsonville, and secretary, Dr. Wright, Newark.——The Summit County Medical Society held its annual meeting in Akron and elected the following officers: President, Dr. Mark D. Stevenson, Akron; vice-president, Dr. Charles W. Millikin, Akron; secretary, Dr. John H. Weber, Akron; treasurer, Dr. Louis J. Wise, Barberton; delegate to the state society, Dr. Charles E. Held, Akron; member state committee of public policy and legislation, Dr. Judson A. Hulse, Akron; censor, Dr. Dell S. Bowman; member of library committee, Dr. John H. Seiler, and member of the committee on health and legislation, Dr. Gilman W. Stauffer, Akron.——The Columbus Academy of Medicine, at its annual session, December 16, elected the following officers: Dr. Wells Teachnor, president; Dr. Hugh A. Baldwin, vice-president; Dr. Charles J. Shepard, secretary; Dr. R. Blee Smith, treasurer, and Dr. Herbert M. Platter, censor.——At the annual meeting of the General Practitioners' Medical Society, held in Columbus, December 12, the following officers were elected: Dr. Ida M. Wilson, president; Dr. Schuyler O. Giffin, vice-president, and Dr. Albert B. Davenport, secretary-treasurer.

PENNSYLVANIA.

Tuberculosis Dispensary.—On January 3 a free dispensary was opened in Norristown under the auspices of the State Department of Health, for the treatment of persons in Montgomery County afflicted with tuberculosis. It is to be open two days each week, on Monday and Friday afternoons.

Sanatorium Needs Funds.—An appeal for more beds has been made by the Free Hospital for Poor Consumptives. The institution now has 196 beds at the White Haven Sanatorium, of which 112 are free and 84 at practically the cost of maintenance. There are now nearly 100 on the waiting list.

Filter Lowers Death Rate.—That the installation of a filter plant furnishing 11,000,000 gallons of water a day to Harrisburg has reduced the death rate from typhoid fever was shown in a statement made December 27 by the clerk of the councilmanic sanitary committee. In 1903, before the filter plant was built, there were 53 deaths from typhoid fever; in 1904, when the plant was placed in operation, the number dropped to 29; in 1905 there were 31 deaths; in 1906, 28, and in 1907, 18.

Epidemic Diseases.—Pittsburg is suffering from a severe epidemic of disease and physicians estimate that thousands of persons are prostrated by pneumonia, typhoid fever and especially influenza. The Pittsburg Railways Company is having difficulty in manning its cars on account of conductors and motormen being ill with influenza. Dr. Bradford A. Booth, the city physician, says that the present epidemic of grip exceeds in scope and severity all excepting that of 1889.——Dr. Dixon, state health commissioner, is cooperating with the local health board in an effort to stamp out an epidemic of typhoid fever in Danville. About 75 new cases have been reported and orders have been issued that all drinking water and milk be boiled.

Personal.—Dr. Orr H. Shaffer has been elected chief of staff of the Altoona Hospital, to succeed the late Dr. John Fay.——Dr. Charles G. Eicher has been elected president of the McKees Rocks board of health.——Dr. David J. McCaa has been elected president of the Ephrata board of health.——Dr. L. H. Botkin has been elected secretary of Duquesne board of health.——Dr. Israel Cleaver has resigned from the staff of Reading Hospital.——Dr. S. Banks Taylor has been appointed pathologist; Dr. William S. Bertholet, assistant pathologist; Dr. Romer J. Rhode, ophthalmologist, and Dr. Edward G. Meter, radiographer, on the staff of Reading Hospital.——Dr. Fremont W. Frankhauser has been re-elected president; Dr. Victor W. Wickert, vice-president; Dr. William W. Livingood, secretary, of the medical staff of the Reading Anti-Tuberculosis Society.

Philadelphia.

Old Publishing Firm Dissolved.—Messrs. Lea Bros. & Co. announce the dissolution of their firm on December 31, and the continuance of the business by their successors under the title of Lea & Febiger.

Personal.—Dr. William F. Morrison has been appointed a police surgeon.——Dr. Archibald G. Thomson has been appointed ophthalmic surgeon, and Dr. Burton Chance, assistant ophthalmic surgeon, to the Pennsylvania Railroad.

Milk Inspection.—The milk supply of Philadelphia is to be carefully guarded during 1908, and the board of health will take steps to stamp out the vending of adulterated milk and to enforce the sanitary regulations for wagons, depots, cans and the dispensing of pure milk.——During 1907, 85,000 inspections were made and the amount of milk supplied to the city exceeded 138,000,000 quarts. This is an average of about half a pint daily to every individual in the city. In 1906, 129,651,388 quarts were furnished.

Hospital Reports.—The report of the German Hospital for the month ended December 21 shows that nearly 4,000 patients were treated in the wards and dispensary; 260 were admitted to the wards, and 3,176 were given attention in the out-patient department.——During November 260 medical cases, 248 surgical cases, 192 cases of diseases of women and children, 60 cases of diseases of the nose and throat, 41 cases of diseases of the eye and 24 cases of diseases of the ear were treated in the Charity Hospital.

Bequests.—Five thousand dollars has been bequeathed to the University Hospital, with the endowment of a free bed, by the will of Hanson L. Withers, and the hospital was also made the reversionary legatee in certain contingencies, of an estate valued at more than $100,000.——By the will of Adeline G. Frey, $3,000 was devised to the German Dispensary and Hospital; $1,000 to the Aid Association of the Philadelphia County Medical Society; $2,000 to the Home for Consumptives, Chestnut Hill, and $8,000 to the Philadelphia Lying-in Charity Hospital.

Elections of Officers.—The following officers were elected at the last meeting of the West Branch of the Philadelphia County Medical Society: Chairman, Dr. J. Dutton Steele; clerk, Dr. Charles A. E. Codman.——The Kensington Branch of the Philadelphia County Medical Society has elected Dr. John F. Roederer, chairman, and Dr. Joseph A. Moore, clerk.——The election for officers of the West Philadelphia Medical Association resulted as follows: President, Dr. Henry D. Jump; vice-president, Dr. Arthur Bogart; recording secretary, Dr. George M. Lloyd; financial secretary, Dr. Charles E. Price, and treasurer, Dr. Edmund L. Graf.

Blockley Patients Sent to Norristown.—On December 23, 149 patients, 99 of whom were women, were removed from the insane department of the Philadelphia Hospital and transferred in special cars to the Norristown State Hospital. Of these insane persons 100 were brought to the Philadelphia Hospital six months ago, when fire destroyed a portion of the state hospital. The other 49 were removed by the order of the court, at the request of the patients' relatives, and also to make more room in the Philadelphia institution. There are at present 5,196 patients in the Philadelphia Hospital, 2,315 of that number being in the insane department.

Health Report.—The total number of deaths reported for the week ended December 29 was 601, an increase of 102 over those of the previous week and an increase of 69 over those reported in the corresponding week of 1906. The principal causes of death were: Typhoid fever, 6; whooping cough, 8; diphtheria, 14; influenza, 11; consumption, 61; cancer, 33; alcoholism, 5; apoplexy, 11; endocarditis, 11; heart disease, 66; acute respiratory diseases, 121; gastritis, 8; enteritis, 12; cirrhosis of the liver, 6; appendicitis, 5; acute nephritis, 5; Bright's disease, 39; premature birth, 15; congenital debility, 8; old age, 12; suicide, 3; accidents, 19, and marasmus, 5. There were 188 cases of contagious diseases reported, with 23 deaths, as com-

pared with 262 cases and 20 deaths reported in the preceding week.

TENNESSEE.

Personal.—Dr. Charles M. Drake has been elected assistant chief of the staff of the Knoxville General Hospital; Dr. J. B. Johnson, visiting obstetrician; Dr. John M. Kennedy, visiting pediatrician; Dr. Albert G. Kern, visiting surgeon, and Dr. John F. Massey, visiting physician.——Dr. Jack S. Dye, Chattanooga, has been appointed local surgeon of the Chicago New Orleans & Texas Pacific, and Alabama Great Southern railways, the Belt Line and the Chattanooga Railways Company.——Dr. J. L. Kelly, interne at the City Hospital, Memphis, is reported to be seriously ill with septicemia.——Dr. E. A. Reed, Knoxville, is said to have been fined $50 by the recorder on the charge of illegal sale of cocain.

CANADA.

Smallpox.—Smallpox has appeared in St. Boniface, a suburb of Winnipeg.——From 15 to 20 cases of smallpox have been discovered among children attending one public school in Toronto, and all the patients have been removed to the Toronto Smallpox Hospital.

Ontario Pharmacists and Cocain Buying.—It having been alleged that cocain habitués from New York State are making periodical trips to Ontario for the purchasing of cocain, the Ontario College of Pharmacy will seek legislation from the Ontario legislature at its approaching session, forbidding the sale of cocain by druggists except on a physician's certificate.

Toronto Births and Deaths.—An average of 18 births a day occurred in Toronto during 1907. The total number of births registered was 6,715, two a day more than in 1906. Since 1900 the births each year have been as follows: 4,530, 4,445, 5,040, 5,283, 5,816, 5,958, 6,715.——The deaths in Toronto during the last seven years have been as follows: 3,604, 3,404, 3,730, 3,884, 3,915, 3,960, 4,563. The estimated population of Toronto is 270,000.

Violent Deaths in Montreal in 1907.—Coroner MacMahon of Montreal has issued an official statement to the effect that in 1907 there were in that city 785 deaths attributable to violence, 25 more than were reported for the previous year. Of these 83 persons were killed by railways; 53 met death by drowning; 27 committed suicide, and 44 were burned to death. There were 12 cases of homicide. Of the railway accidents, 23 were from street cars. During the year 51 persons died without medical treatment.

Decline of Illegitimacy in Ontario.—The report of the register general of Ontario for 1905 has just been issued. Its statistics show that illegitimacy in Ontario is on the decline. In the year 1899 there were 808 illegitimate births; in 1900 the number was 800; 1901, 812; 1902, 819; 1903, 782; 1904, 798; 1905, 699. The proportion of illegitimates to every 100 children born in the province in those years is as follows: 1.80; 1.73; 1.76; 1.6; 1.58; 1.34.

Physicians in Parliament.—Dr. Peter D. McLean, Woodbridge, Ontario, has been elected a member of the Canadian House of Commons. The other physicians in Canada, who are members of parliament, are: Sir Frederick Borden, Ottawa, minister of militia and defense; Dr. John Barr, Shelburne, Ont.; Dr. Henri Béland, St. Joseph de Beauce, Que.; Dr. Judson B. Black, Windsor, N. S.; Dr. Gustave Bover, Rigaud, Que.; Dr. Edward L. Cash, Yorkton, Sask.; Dr. John W. Daniel, St. John, N. B.; Dr. Wilbert McIntyre, Strathcona, Alta.; Dr. Angus McLennan, Margaree, N. S., and Dr. Thomas S. Sproule, Markdale, Ont.

Smallpox and Neglect of Vaccination in Ontario.—According to Dr. Charles A. Hodgetts, secretary of the Ontario Board of Health, Ontario is to-day a largely unvaccinated province. During the past ten years there have been at various times considerable epidemics of smallpox of a mild character; in fact, at the present time there are several centers throughout the province for infection. Dr. Hodgetts attributes these outbreaks to the failure on the part of municipal authorities to enforce the law with regard to vaccination. He states that in the past ten years the cost of smallpox outbreaks has cost the various municipalities of the province at least $2,000,000.

Hospital News.—The four general hospitals in Toronto—Toronto General, St. Michael's, Grace and Western—have decided that after January 1 all city order patients will be charged 70 cents per diem for their care and maintenance.——Reorganization of the visiting staff of the Toronto General Hospital is proceeding apace. Drs. Alexander McPhedran, William P. Caven and Graham Chambers have been appointed heads of the three departments in medicine, and Drs. George A. Bingham, Alexander Primrose and Herbert A. Bruce, heads of the three departments in surgery. Dr. James F. W. Ross has been appointed head of the gynecologic department; Dr. Richard A. Reeve, of the ophthalmologic department; Dr. George R. McDonough, of the rhinologic, otologic and laryngologic department, and Dr. Kennedy C. McIlwraith, of the obstetric and pediatric department. Mr. Irving H. Cameron, M.B., F.R.C.S. Eng. (Hon.), professor of surgery in the University of Toronto, is ex-officio head of the department in surgery.

FOREIGN.

Serum Treatment of Botulism.—The German Institute for Infectious Diseases is now making a curative serum for meat poisoning.

Progress of the Koch Endowment.—Since October 1, when the appeal for subscriptions to endow a fund for combating tuberculosis, in the name of Robert Koch, was published, over $40,000 has been subscribed by various private parties and medical societies, and the city of Berlin has recently appropriated $12,500 for the purpose.

Memorial to Kussmaul.—Subscriptions are being collected at Freiburg to erect a memorial to Adolf Kussmaul, who was professor there from 1863 to 1876. It was during his work there that he introduced the method of treating dilatation of the stomach with the stomach tube. Contributions to the memorial should be sent to the branch of the Dresden Bank at Freiburg, Breisgau.

Prize for Popular Pamphlet on the Dangers of Venereal Diseases.—The German Society for the Repression of Venereal Diseases offers three prizes, $75, $50 and $25, for the best pamphlets written in popular style calling attention to the dangers of venereal disease, with special reference to the life of the soldier and sailor. Further details can be learned on application to the office of the society, Inselstrasse 13 a., Berlin, S., 14.

Subsidies to Vienna Research Workers.—The Vienna Academy of Sciences has given $100 to Dr. L. Braun to aid him in completing his research on the circulation of the blood; Dr. E. Brezina was given $120 to aid his work on the physiology of digestion, and Dr. W. Falta $300 so that he can continue his study of the energy in healthy and in diabetic individuals. A further sum of $80 was given to Dr. E. Ranzi to aid his research on the feces and digestive secretions.

Next German Dermatologic Congress.—The tenth annual meeting of the German Dermatologic Association is to be held at Frankfurt, June 8-10, 1908. There are to be no official addresses, the principal features of the congress being the demonstrations and discussions, as has been the plan at previous meetings. The etiology of syphilis and results of experimental research on syphilis will probably be well represented. Address Prof. K. Herxheimer, Gärtnerweg 40, Frankfurt a. M., for further information.

Abuse of Cocain as Extenuating Circumstance.—A German exchange states that a teacher involved in a criminal suit appealed for milder judgment on account of his addiction to cocain. He presented evidence to show that he had purchased $50 worth of cocain in the course of three or four months, and for several years had bought large amounts. Our exchange comments that it seems inconceivable that a layman could purchase such large quantities of such a dangerous poison merely from the drug stores.

International Journal for the Biology of the Nervous System.—The first number of the new *Folia Neuro-Biologica* has been received. It is published by Dr. E. Hemka of Groningen at the Verlag von Dr. Werner Klinkhardt, Leipsic, and contains 152 pages. There are three original articles by Marinesco, Tretjakoff and Tschermak, with critical reviews of recent literature by Bethe, Halliburton and Rynberk, and 75 pages of classified abstracts of current literature. The authors write in their mother tongue, the four "congress languages" being admitted to the pages of the new journal.

Retirement of Cornil and Election of Marie.—Professor Cornil, of Paris, having reached the age limit of 70 years, has been retired from the chair of pathologic anatomy and histology, which he may be said to have first founded in France. His successor is P. Marie, who is now in his fifty-fifth year, and has been associate professor since 1889. Marie's name is connected with acromegaly, rhizomelic spondylosis, amytrophy and cerebellar heredo-ataxia, as well as with aphasia. His revolutionary ideas in regard to the latter were discussed editorially in these columns Aug. 11, 1906.

V 50
1908

Plague in China and Japan.—Consul-General Fowler reports the existence of bubonic plague at Tengchowfu, near Chefoo, and that information from Chefoo states that in the city of Tengchow bubonic plague was prevalent November 5, three or four persons in one family often dying within a few days of one another. The area of the infected portion of the city is constantly enlarging. Reports indicate that there have already been from 80 to 100 deaths. Sick, dying and dead are often transported to the country, and it is reported that the disease has broken out in several places in two or three counties. A further report, dated November 14, adds that in one shop a brick bed was torn out and three or four dead rats were found. The mason and one of the employés in the shop were taken ill almost at once and died within a day or two. Another man was also taken ill.——Passed Assistant-Surgeon Cumming reports from Yokohama that plague continues severe at Osaka and the whole city is said to be infected. A severe and fatal epidemic of plague is reported from the Goto Islands in Nagasaki ken, about 60 miles from the city.

Vienna Committee Appointed to Study Means for Repression of Venereal Diseases.—The Royal-Imperial Medical Society recently appointed a committee to study ways and means to check the spread of venereal diseases, and the *Wien. klin. Wochschr.* published, December 19, the report of the committee in full. Prophylaxis by education, by measures in hospitals, dispensaries, in the army, etc., and by women's organizations is discussed in detail, besides extragenital infection, dangerous customs and protection of workmen in factories, etc. It is stated that in Vienna 11 per cent. of the inmates of the hospitals are there on account of venereal disease. During 1901 there were 1,628 syphilities and 5,120 suffering from other venereal affections among the 61,621 inmates of the hospitals. The most instructive way to determine the prevalence of venereal disease is to search for it in every person admitted to the hospitals. This has been done in late years, and signs of venereal infection were discovered in 20 per cent. at Vienna, in 21 per cent. at Paris, and in 51 per cent. at Marseilles. The report further presents the history of the movement aiming toward repression of venereal diseases, and relates what has been accomplished in various European countries, concluding with a number of practical suggestions for general prophylaxis.

Metchnikoff and Lactobacillin.—The Paris *Journal de Médecine* has a caustic article on the subject of Metchnikoff opening a shop in the Latin Quarter where is sold his "lactobacillin." for making clabbered milk, which he announced some time ago was the proper food for the aged, as it would ward off senile changes. THE JOURNAL has duly chronicled his announcements on the subject of the importance of the lactic acid bacilli in this respect, and Dunn, Fournier and others have confirmed the efficacy of the lactic ferment in combating intestinal fermentations. It seems to be the only ferment known to date, the latter says, which adapts itself to anaërobic conditions, while very resistant to external influences and acting directly on carbohydrates. The humorists in the daily papers have rung all the changes on Metchnikoff's announcement, which they quote as "Drink sour milk and you will never grow old." Our exchange states that Metchnikoff conferred on a certain Russian firm the sole rights for the sale of the lactobacillin in Russia, and that this firm is now threatened with a damage suit on account of symptoms of severe poisoning that followed the use of the lactobacillin in a certain case. The husband of the patient wrote recently to the Russky Vratch that he had sent one of the jars in which the poisonous clabbered milk was prepared to Metchnikoff at Paris, informing him of the matter and of the unhygienic methods of his Russian agents, but has received no reply. Dr. C. A. Herter's article in THE JOURNAL, Dec. 14 and 21, 1907, discusses the value of the lactic acid milk in intestinal fermentation.

Last Meeting of the German Society for Repression of Venereal Disease.—The December public meeting of this society was addressed by Professor Bumm on the "Importance of Gonorrhea for Health and Marriage." He emphasized the misery resulting from this disease which, as he remarked, often runs a mild course in man, while affecting women much more seriously. In from 20 to 25 per cent. of all cases of sterile marriages, the husband has lost the procreating power as a result of gonorrhea. Another serious property of gonorrhea is its ability to persist in a latent form for years. This is the way in which most wives become infected, and the infection runs a peculiarly severe acute course in younger women. If the disease is not effectually treated and cured while it is restricted to the accessible parts, the germs ascend and are liable to induce painful inflammatory processes, and the wife becomes a chronic sufferer and barren, or she may not develop the chronic affection until after her first child is born. The affection may heal after the organs of procreation have been injured beyond repair, but in other cases the woman is left a chronic sufferer until the inflamed organs are removed. In conclusion, he emphasized further the importance of early and thorough treatment. The next meeting is to be held in the evening and for employed women and girls only, especially servant girls. It is to be addressed by Dr. Agnes Hacker on the "Dangers of Ignorance in the Matter of Venereal Disease." The audience was urged to advertise this coming meeting among clerks, housemaids, etc., to insure a large attendance.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Dec. 21, 1907.

Success of the Huddersfield Scheme to Check Infantile Mortality.

The scheme instituted by Mayor Broadbent of Huddersfield (brother of the late Sir William Broadbent), has been most successful. Its object was to secure early notification of births and systematic feeding and attention to infants. During the two years of Alderman Broadbent's mayoralty the system was tested. The mayor gave a reward for the immediate notification of births, which was followed by the calling of a health visitor, who gave the mother all necessary instructions on the careful and successful rearing of the infant. The public officials of Huddersfield were so struck with the result of the system that the matter was taken up on the expiration of Mayor Broadbent's term. The various means of prevention of illness of infants followed, and from this there emerged one definite principle: "Help the mother to nurse her infant herself in her own home." By a special act of parliament, passed in 1906, the Huddersfield corporation was the first to secure the power to order the compulsory notification of births to the health officers within forty-eight hours. No difficulty has been found in enforcing the act. The notifications within the time limit have been 94 per cent. A post card is sufficient, and in order to encourage compliance with the act stamped and addressed cards are given to midwives and the cooperation of physicians is sought. Power of entry into homes is not included in the act and is not enforced in any way. Visits are paid by members of a voluntary association of women, formed for the purpose in the town, in cooperation with women physicians. After the health officer pays his first visit the lists of babies are divided into districts. A similar experiment has been begun in the large London borough of Marylebone. With a view to reducing infant mortality the mayor, Sir Brooke-Hitching, has offered an award of $5 each to poor mothers whose children survive a year. Several hundred applications have been made for the gift and the infant mortality has been reduced from 237 to 202.

Quack Nostrums in Great Britain.

The correspondence regarding quackery and the evidence that a stand is to be made against the exploitation of secret remedies, by medical men and druggists increases every day. The *British Pharmaceutical Journal*, Nov. 23, 1907, contains the following letter from a general practitioner. "From the mere business point of view, excluding every consideration open to the charge of sentimentalism it seems evident that if the quack nostrum traffic were abolished or properly curtailed the increase in the demand for legitimate needs would far outweigh any loss arising from the altered scale of the retail pharmaceutical trade. On selfish not less than on moral grounds it seems evidently the duty of the Pharmaceutical Society to take part energetically in the campaign against quackery now so successfully inaugurated. The ball has been set rolling in Great Britain and there is no doubt that great reforms will be introduced into the manner in which the nostrum trade is conducted."

Libel Suit Against the Lancet.

Our respected contemporary, the *Lancet*, has always played a prominent part in the denunciation of quackery. An action has been brought against it under the following circumstances: An inquest was held on the body of a laborer who died of consumption, and it was stated that during his illness he purchased one of "Dr. Tucker's specific inhalers and atomizers" at a cost of $15. For liquid to be used as a spray he purchased an ounce, for which he paid $2. The coroner made strong remarks on this which were reported in the *Lancet*, with comments to the effect that the prices were excessive. The defendants pleaded fair commentary and sought by interrogatory to ascertain the contents of the liquid which, it was said, could be purchased for 25 cents an ounce. The judge, however, refused to order the plaintiff to answer the interrogatory on the ground that he would be directing the disclosure of a secret process.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Acute Frontal Sinusitis.

The cause of this frontal headache or pain in the supra-orbital region is often overlooked. It follows acute nasal inflammations, and especially after influenza. It may be no more than a congestion of the mucous membrane of the frontal sinus and an increased secretion which, with hypertrophy at the orifice of the duct in the upper part of the nose may cause pain from pressure, or actual purulent inflammation in the sinuses may occur. The occurrence of one attack predisposes to other attacks.

The pain centers in the supraorbital region, but is often referred to the temple. Pressure in the inner angle of the eye against the nose will cause pain on the side on which the inflammation is located. These paroxysms of pain generally occur in the morning hours, and after the pressure from the secretion in the sinus has become sufficient it may force its way through the narrowed duct, and the pain is relieved.

The general treatment of the condition is that called for in any acute cold, i. e., to remain in the house, at rest if there is temperature, on a lowered diet, saline and mercurial purgatives, and such treatment of grip, sore throat, or cough as would be given were the frontal sinusitis not present. Quinin should not be given, as it tends to congest the blood vessels of all parts of the head, and will make the condition worse, as well as increase the tendency for trouble to occur in the middle ear. Neither local heat nor local cold will ease the pain, nor will any of the ordinary sedatives, neither will small doses of morphin be of value, as the pain is due to pressure which no drug can stop.

The local treatment is the only treatment of any avail. Mild, warm saline sprays as represented by physiologic saline solution (one-fourth teaspoonful of salt to a half glass of warm water) or by Seiler's tablet solution (each tablet dissolved in two or three ounces of warm water), or by any other mild alkaline solution. After the secretion of the nose is thoroughly cleansed off and the openings of the frontal sinus ducts are made free, a spray of a weak suprarenal solution, or a 1 to 10,000 adrenalin or suprarenalin solution directed high up into the nose is of benefit in contracting the mucous membranes so that the secretion from the frontal sinuses may flow freely down. This treatment should be repeated several times a day, but if there is not quick and immediate relief from the frontal pain and pressure, the patient should be sent to a specialist for proper probing of the canal and possibly the destruction or removal of granulations or hypertrophied mucous membrane. Prolonged pressure from secretions in the frontal sinus or the formation of pus that can not be evacuated can produce serious abscesses and destruction of tissue, and may call for later operation for evacuation.

Albuminous Drinks.

The following suggestions are from "Practical Dietetics," by Alida Pattee:

EGG BROTH.

Yolk of one egg.
Sugar, a tablespoonful.
Salt, a speck.
Hot milk, one cup.

"After beating the egg, add the sugar and salt, and then pour on the hot milk. If desired this may be flavored with brandy or wine."

EGGNOG.

Egg, one.
Salt, a speck.
Sugar, a tablespoonful.
Milk, two-thirds of a cup.
Sherry wine, one and one-half tablespoonfuls, or
Brandy, one tablespoonful, or less.

"The beaten egg, with the added sugar and salt, should be chilled and the milk chilled before the whole is mixed with the liquor. A little nutmeg may be added if desired."

JUNKET EGGNOG.

Egg, one.
Milk, one cup.
Sugar, one tablespoonful.
Rum, brandy or wine, two teaspoonfuls.
Hansen's junket tablet, one-fourth.

"Beat the white and yolk of the egg separately very light, then blend the two and add the sugar dissolved in the rum. Heat the milk lukewarm, stir into the egg mixture and add quickly the tablet which has been dissolved in cold water. Pour into small warm glasses and sprinkle grated nutmeg over the top. Stand in a warm room undisturbed until firm, and then put on ice to cool. This can be retained by the most delicate stomach."

BEEF EGGNOG.

Egg, one.
Salt, a speck.
Sugar, a tablespoonful.
Hot beef broth, one-half cup.
Brandy, a tablespoonful.

"Beat the egg slightly, add the salt and sugar, then gradually add the hot broth, then the brandy, and strain. The sugar and brandy may be omitted, if preferred."

EGG AND BRANDY

Eggs, three.
Cold water, four tablespoonfuls.
Nutmeg, a little.
Brandy, four tablespoonfuls.
Sugar, enough.

"Beat the eggs, add the cold water and brandy, and sweeten to the taste. Administer a tablespoonful at a time."

ALBUMINIZED MILK.

Milk, one cup.
White of one egg.
Salt.
Flavoring.

"Place the milk and egg in a covered glass fruit jar, shake until thoroughly blended, salt and flavor as desired. Strain and serve immediately."

ALBUMINIZED WATER.

Water, one cup (cold water boiled, and then cooled).
White of one egg.
Lemon juice.
Sugar to taste.

"Put all the ingredients into a covered glass fruit jar and shake until thoroughly blended, then strain and serve immediately."

Uric Acid.

Dr. A. H. P. Leuf Philadelphia (*Medical Record*, Oct. 5, 1907), discusses the conditions which he thinks are due to uric acid, and uses the term "rheumatism" in describing these conditions. In other words, he does not seem to consider acute rheumatism as an infection. He believes that besides articular, ligamentous and muscular disturbances due to rheumatism, that we often overlook the cause of disturbances from uric acid. He directs attention to "cutaneous rheumatism," to "rheumatic sore throat," to "irritable bladder," to "acute urethritis," to "ocular rheumatism," to "aural rheumatism," to "rheumatic toothache," to "enteric rheumatism," and to "visceral rheumatism," all of which he believes are due to an overproduction or to retention of uric acid.

Cutaneous rheumatism is a condition with urticaria, itching, and patches of hyperemia. He finds that the best local treatment for this condition is a wash of bicarbonate of sodium, and he also administers it internally. He also regulates the diet.

Rheumatic sore throat, he believes, can be as readily caused as the urticaria of the skin. The throat looks red, feels irritated, but has no exudate, and he finds that the salicylates and colchicum give prompt relief.

"Irritable bladder and acute urethritis may both be caused by uric acid crystals in the urine," and, other causes being excluded, he finds again that sodium salicylate and colchicum effect a rapid cure.

Ocular rheumatism has long been recognized, but is still often overlooked, and sodium salicylate and colchicum are valuable curative agents.

Leuf believes that aural rheumatism occurs, and is sure that there is toothache due to rheumatism, he again using the word rheumatism to mean uric acidemia. He believes, too, that there is enteric rheumatism as evidenced at times by irregular diarrheas, and that many of the pains in the pelvic organs are due to this same cause. He also speaks of headaches and nerve pains due to this same uric acidemia.

His treatment of all these conditions aims at the uric acid, and the wine of colchicum-root, often in small doses, is his mainstay, with sodium salicylate, also in small doses, as a frequent adjunct. The bowels should be moved freely in any of these uric acid conditions, and preferably with magnesium sulphate. In local pain from rheumatism (uric acid) he finds the application of heat very valuable. Warm baths he advises for all these conditions, while he believes that cold baths are harmful. Sun baths are also advised. Any agent that increases elimination, as alkalies and iodids, or improves oxidation, as iron and manganese, are valuable. The salicylic treatment may be given as follows:

R.	gm. or c.c.		
Sodii salicylatis	5	or	3iss
Aquæ gaultheriæ	100		fl℥iv

M. et Sig.: A teaspoonful, in water, every two hours until there are some signs of salicylic acid action.

The indications that enough salicylic acid has been used, and that the frequency or the size of the dose should be diminished, are symptoms of "salicylism," and these are flushing of the face, itching of the skin, ringing in the ears, possibly slight headache, and often profuse sweating. With pure preparations of salicylic acid, there would rarely be any cardiac depression. It should be understood that synthetic preparations of salicylic acid should not be used, as they cause depression.

If the dose of salicylic acid is not frequently administered, and the sweetness of it is disagreeable, the powder can be given in capsule directly after meals, but even then there is often slight burning sensations while it is dissolving.

R.	gm.	
Sodii salicylatis	10	3iiss

Fac capsulas, 20.

Sig.: One capsule three times a day, after meals.

Nascent sodium salicylate is sometimes administered and has been considered more effective in its action.

R.	gm.	
Acidi salicylici	10	
Sodii bicarbonatis	10	ää, 3iiss

M. et fac chartulas, 20.

Sig.: A powder dissolved in half a glass of water three times a day.

The formation of sodium salicylate from this preparation occurs very quickly, the solution forming an effervescing mixture which may be drunk while sparkling.

The oil of gaultheria may be substituted for the sodium salicylate, if desired, as:

R.	c.c.		
Olei gaultheriæ	50	or	fl℥ii

Sig.: Take ten drops on granulated sugar (or on cut sugar) four times a day, to be followed with plenty of water.

Leuf uses the wine of colchicum-root, which is doubtless the best preparation:

R.	c.c.		
Vini colchici radicis	50	or	fl℥i

Sig.: Five drops, in water, every four or five hours.

The colchicum should doubtless be increased until there is slight diarrhea and then the dose continued a little less than that which affected the bowels. Leuf finds that in chronic cases very small doses, as one to two drops three or four times a day, of the wine of colchicum, are effective.

Hand and Toilet Lotion.

Harbold (*Druggists Circular*, Nov. 1907) offers the following as a "non-sticky, non-greasy, and non-irritating," soothing lotion:

R.	gm. or c.c.		
Tragacanthæ	2		3ss
Cydoniæ seminis	15		3iv
Sodii boratis	6		3iss
Acidi borici	8		3ii
Sodii benzoatis	3	or	gr. xlv
Glycerini			
Alcoholis, ää	75		ää, fl℥iiss
Aquæ bullientis	625		fl℥xx
Aquæ	ad 1000		ad Oii

M. et Sig.: A soothing and mildly antiseptic lotion.

[It is not necessary to shake this mixture. Any perfume or coloring desired may be added to this lotion.]

"Dissolve the tragacanth in one-half a pint of water, stirring until it dissolves or becomes a homogeneous mixture. Steep the quince-seed in boiling water for four hours, stirring frequently; then strain carefully. Dissolve the borax, sodium benzoate, and boric acid in the remainder of the hot water. Add the glycerin, dissolved in the alcohol, and finally the tragacanth and quince-seed mucilage, which has previously been mixed, portion by portion, shaking on each addition, in order to get a thoroughly homogeneous mixture. The consistency may be varied by the addition of water."

Antiseptic Flexible Collodion.

John T. Harbold (*Druggists Circular*, November, 1907) recommends the following collodion as an improvement on the flexible collodion of the Pharmacopeia:

R.	gm. or c.c.		
Pyroxylini	10		3iiss
Ætheris	190		fl℥vi
Tincturæ benzoini	20	or	fl℥v
Hydrargyri chloridi corrosivi	12		gr. ii
Alcoholis	ad 250		ad fl℥viii

M. et Sig.: Flexible antiseptic collodion.

"Dissolve the gun cotton in the ether, shaking until it becomes of the consistency of paper pulp; then add the tincture of benzoin and shake the mixture thoroughly. To this mixture add the alcohol in which the mercuric chlorid has been previously dissolved."

Correspondence

Johnson & Johnson's Digestive Tablets.

WHEELING, W. VA., Dec. 14, 1907.

To the Editor:—Every physician doubtless is interested in the surgical supply business. There are men scattered here and there, who, like the majority of hospitals, prepare their own dressings, but they are in the minority, and one can easily imagine their bandage rollers lying with the rusty antique surgical metal in some neglected corner of a seldom used cupboard to be resurrected once in a while to occupy the time of the office girl in the dull season. It is conceded, I suppose, that most of us depend on the manufacturers of such goods for all we use in the hundred and one little and big procedures calling daily for their use. I believe Johnson & Johnson's goods have been found satisfactory, and in many ways the firm has endeavored to be progressive and efficient. It is, therefore, with a feeling of wonder and almost incredible surprise that I ran across a bottle of digestive tablets bearing the imprint "Johnson's Digestive Tablets, New Brunswick, N. J., Johnson & Johnson, selling agents." Two letters addressed to them, for information, did not reach them, since no reply came and I was left in the darkness of ignorance. Inquiry along other lines has always received courteous attention from this firm and it is hardly to be supposed that two letters would miscarry. I therefore, refer the matter to the profession at large, and ask any one interested to go to his drug store and buy a box of "Papoids," or "Johnson's Digestive Tablets," and learn for himself the character of an exploitation carried on by the firm which actually owes its existence to his profession.

Furthermore, it may be possible that as he goes into the drug store he may see the window full of these tablets and, as he walks back, he may, possibly, increase his knowledge of this firm's first aid to the injured or dyspeptically sick by observing two test tubes, one exhibiting food undigested, the other food presumably digested by "Papoid" (no doubt aided by some wonderful agent such as bicarbonate of soda or peppermint). Purchase, therefore, a fifty cent size, and enrich your familiarity with current literature by a perusal of its circular enclosed. If you have a lingering belief that this is intended for the profession, certainly, at the same time, you must then, be belittling it needlessly.

It might be well, too, for the physician so interested to find out from reading the circular in package that there is a larger bottle of these tablets, known as physicians' size which "is for physicians" (?) or (and this comes later) "where it becomes necessary to continue the treatment." The fifty-cent size, it is stated, may, in some cases effect a cure, and before one leaves the subject, it may well occur to some how a firm selling an article with any such claim can be depended on in other directions.

The formula of the tablets is the same as that of many other tablets, and possibly one or two "patent medicines" owe their existence to the same ingredients. That is scarcely the point. But a point one can with propriety dwell on, is why need a surgical dressing firm make only one tablet for physicians' use, and that one with papoid, sodium bicarbonate and peppermint as the formula? Doubtless, in fairness, the tablet possesses value, but surely, too, only when used scientifically. For instance, do Johnson & Johnson as selling agents advise their use in a case of deficient activity of the acid forming function of the stomach?

There is one more thing, too, in passing, why is there any need for a bottle other than the physicians' size if the preparation is for physicians' use only? Below are some extracts from the circular enclosed in a fifty cent package bought in the open market:

JOHNSON'S DIGESTIVE TABLETS.

The essential active ingredient in Johnson's Digestive Tablets is obtained from the fruit of the Carica Papaya. This fruit contains a milky juice which has the property of softening and making tender the toughest meat. Hence the name "Digesting Melon." . . . The secret of the action of the digesting melon is that it contains a peculiar quality of pepsin, akin in nature to the fluid or ferment given out by the stomach in the act of digestion, and there can be no stomach digestion without this ferment. When the stomach fails to supply it sufficiently—as in dyspepsia or in cases of overeating—a substitute must be furnished. Commonly this substitute is a pig pepsin scraped from the stomach of the dead animal. It frequently contains a quantity of poisonous substances, removed with it and afterwards practically inseparable from it, which, of course, go into the stomach every time any preparation that includes animal pepsin is taken. The danger is especially great now that there are so many brands of cheap pepsin on the market, made at the great pork-packing establishments of the west.

Johnson's Digestive Tablets are made from the vegetable pepsin obtained from the digesting melon, a product which contains all the properties of the fruit. . . . Time for administration and directions for employment. . . . Hygienic Hints for Dyspeptics.—In all dyspeptic conditions the good influence of hygiene, especially exercise, bathing and diet, are admitted by all. On the following pages are given brief suggestions condensed from the methods suggested by various writers. . . . (Here follow detailed instructions as to diet, bathing, exercise, massage, etc.) Johnson's Digestive Tablets are also known as Papoids. These tablets are made according to the following formula: Papoid gr., Soda Bicarb. grs. iii.; Sacch. Lactis, Menth. pip., qs. Dose—1 to 3. . . . Johnson's Digestive Tablets are put up in two sized packages; small size contains fifty doses, enough to do a great deal of good and in some cases effect a cure. They are packed in a flat, blue glass bottle that is convenient to carry in the pocket. The bottle is incased in a yellow paper carton, which bears the distinguishing label, as shown in the cut, and sells for fifty cents. The large sized package, known as Physician's size, is for the convenience of physicians and dispensers or for cases where it becomes necessary to continue the treatment. This size contains one hundred and fifty tablets and sells for one dollar.

The question which to me appears a vital one is this, how can a firm guilty of just such a thing, really, at heart be a friend of the profession any more than a big pharmaceutical house that does the same thing? Are not all firms whose business depends on the physician doing the profession a grave injustice when they cater to the casual and frequent buyer of "patent medicines" by manufacturing tablets which only enter into competition with "patent medicines" and as rarely do any appreciable good for anybody?

Perhaps, too, in the case of Johnson & Johnson their "first aid" manuals have appealed to you as a case of benevolence and philanthropy! Some day too you may be called on to witness some employés allowing a life to ebb away turning the pages of just such a book to see what to do. The firm says, "send for a doctor and do this while waiting" but it is well for us to remember the circular of the digestive tablets of which they are the selling agents when considering any attitude they profess.

It is not my intention to criticise the legitimate operations of any corporation but one can not help asking why the need of this deviation to manufacture a digestive tablet, or act as its selling agent. I trust that the firm will somewhere or other explain to the profession its connection in this case, and hope, too, that the explanation will be satisfactory.

H. M. HALL.

Fifth Pan-American Medical Congress.

NEW YORK, Dec. 28, 1907.

To the Editor:—The next Pan-American Medical Congress will be held in Guatemala, Central America, the second week in August, 1908. The international executive committee hopes that you will give it the same efficient support that you have heretofore given to the former meetings. We are sending a news item which is the invitation to be sent out to the medical journals of the western hemisphere.

It must not be thought that Guatemala is an undesirable place to visit in August and that it will be very hot and the rain constant. August is the time of the year called the canicula when, although hot, there is but little rain. The heat does not, however, compare with our summer heat, as Guatemala is situated on a plateau which is comparatively cool. The trip down from New Orleans or from New York by steamer to Porto Barrios is an agreeable one. The trip to the congress and back will be in the hands of the committee on transportation. Excursion trips can also be made in connection with this congress to Mexico or to the various islands of the West Indies. The excursions will be in the hands of Thomas Cook & Co. or of any one who chooses to organize one. There will be no charge for transportation in the Republic of Guatemala. RAMON GUITERAS, Secretary.

To the Medical Profession:

Gentlemen:—The government and the people of the Republic of Guatemala, as well as the national committee of the Fifth Pan-American Congress, are actively endeavoring to do

all in their power, in a sure and efficient way, to make this meeting a great success. With this object in view the committee will be pleased to invite you personally to attend, as well as the members of the society or medical fraternity to which you belong, in order that through your presence and works the certain success of the congress that science expects of its representatives will be assured.

The committee hopes that you and the other members of your institutions will meet at Guatemala Aug. 5 to 10, 1908, and sincerely begs that from now on you will not hesitate to keep yourself in fraternal relations with this committee, and also that you will let us know beforehand if you intend to attend the congress in person or to send some scientific contributions.

The committee hopes to receive a reply shortly to the invitation to this meeting, which should serve as an incentive to unite professional interests, to stimulate the advance of medical science and to contribute to the preservation of the health and the prolongation of the life of the people of the Americas.

We take advantage of this opportunity to express to you the best regards of Yours truly,

JUAN J. ORTEGA, President.
JOSE AZURDIA, Secretary.
National Committee for the Republic of Gautemala.

Sudden Death After Injection of Diphtheria Antitoxin.

[A report of a death of a man in a physician's office, immediately after receiving an injection of diphtheria antitoxin, had wide circulation in the newspapers. A request for information addressed to the physician referred to has brought the following reply.—ED.]

NORRISTOWN, PA., Jan. 6, 1908.

To the Editor:—On the evening of Dec. 12, 1907, Ely Weitzel, aged 34 years, a man of splendid physique and apparently in the best of health, came to my office and asked that I give him an immunizing dose of antitoxin, saying that he had on that morning kissed his little daughter, who was found, less than two hours afterward, to be suffering from diphtheria, both throat and nose being filled with the membrane.

A few minutes before 8 p. m., after having carefully sterilized the right side, I introduced the needle about four inches above Poupart's ligament, and slowly injected nearly all of 1,000 units of diphtheria antitoxin. He said that neither the introduction of the needle nor of the serum gave him any pain, but spoke of the "lump that raised" when I withdrew the needle.

At the time of the injection he was reclining in an office chair, having removed his coats and vest. As near as I can judge, he remained in the chair for from two to three minutes after the injection. Just as he got out of the chair he said: "What is in that stuff? I feel as though it were blistering me." He reached for his clothing, and as he did so he said: "My scalp and face itch and burn terribly," and with both hands he began to scratch his head vigorously. His next remark was: "I can not breathe." I observed that his expression denoted anxiety, and that his lips began to swell and turn dark. I told him to sit down, which he did. He then complained of the itching all over his body, and in a moment said: "I am on fire inside." His breathing was now very labored; his lips, face and neck were much swollen and very dark. A thick heavy froth began pouring from his mouth. He was apparently paralyzed, for he made no voluntary motion of any part of his body. He had a slight convulsion, lasting but a few seconds, after which he ceased to breathe. The action of the heart continued for a considerable time after the breathing ceased.

Soon after he sat down I realized that his condition was alarming and had three physicians called, all of whom live within a few yards of my office. They responded immediately, and we used all the recognized means to re-establish breathing, but did not succeed.

The time elapsing between the introduction of the serum and his death was not over five minutes. He did not speak again after saying: "I am on fire inside," except to mutter: "I—am—dying," nor did he seem to be conscious after that.

The serum used was sent to my office a few minutes before I injected it, from a neighboring drug store. The date limit was "March 7, 1908."

I have used diphtheria antitoxin in over sixty cases and have never seen any untoward symptoms, except in one instance—an attack of urticaria.

No autopsy was made in this case. I might add that this man from childhood could never be about horses without suffering from symptoms of asthma.

It would be a Herculean task to answer personally the many letters I am receiving from physicians in all parts of the country, so I trust this will answer them through your columns.

S. N. WILEY.

The Inventor of the Guillotine.

ST. LOUIS, Jan. 4, 1908.

To the Editor:—In THE JOURNAL, Jan. 4, 1908, page 68, I note that Dr. William Pepper is reported to have said: "Dr. Guillotin, the inventor of the guillotine, had his own head chopped off." If Dr. Pepper has been correctly quoted, the value of his paper on "Diseases of Great Physicians of the Past," which was read before the Philadelphia County Medical Society on Dec. 11, 1907, is much lessened. Dr. Guillotin lived until the year 1814, and died quietly in his bed. Furthermore, he did not invent the machine which bears his name.

The use of a beheading machine can be traced to the middle ages. In Genoa it was known by the name of "*manuaja*," and it was by means of the manuaja that Beatrice Cenci was beheaded at Rome in 1605. The "maiden," an instrument resembling the guillotine, was long known in Scotland. In the reign of Elizabeth it was used in Halifax and in Yorkshire.

Joseph Ignatius Guillotin, an eminent physician, was a deputy for Paris in the constituent assembly. In 1789 he prepared the draft for a law to the effect that the mode of inflicting death on criminals should be the same for all alike, without any distinction of nobles or plebeians. The bill proposed by Dr. Guillotin was voted and the assembly enacted, Jan. 21, 1790, that: "the criminal should be beheaded by means of a simple machine." In October, 1791, the same assembly voted that: "the penalty of death shall consist in the simple taking away of life without the accompaniment of any sort whatever of torture; and the convict so condemned shall be beheaded."

Having decided on decapitation, the committee of legislation directed Dr. Louis, the perpetual secretary of the Academy of Surgery, to make a report on the best method of decapitation. He suggested the plan on which the instrument should be made, and was empowered to have one constructed. A German named Schmitt was employed for the purpose. On April 19, 1792, Louis informed Roland, then minister of the interior, that experiments had been made with Schmitt's machine on three dead bodies and that: "the heads were cut off with such precision that he was astonished at the strength and celerity of its action."

The machine was first used on May 27, 1792, to execute a highway robber. The first political execution was that of Collenot d'Anglemont, on Aug. 21, 1792.

The beheading machine was at first popularly known by the name of Louison or Louisette, from the name of its inventor. By some caprice it was soon called the guillotine, although Dr. Guillotin had nothing to do with its invention or construction. Dr. Guillotin was opposed to cruel and unusual punishments, and in this he showed himself to be a true physician and a humanitarian.

JAMES MOORES BALL.

Warning Against an Insurance Agent.

MARSHALL, MICH., Dec. 24, 1907.

To the Editor:—I wish to warn the members of the profession against an insurance agent who gives his name as Herbert Squires. He represents himself as an agent of the Home Accident and Health Insurance Company of South Bend, Ind., and his object is to get some physician in each city to represent the company. On the payment of $3 the physician is given a policy for one year and is to treat the policy-holders at the regular rates to be paid by the company. The agent leaves town and nothing is seen of the policy, nor any word from the company. He claims to be a Knight of Pythias, and

is familiar with the work of that order. He is very lame, having a six-inch sole on one foot, and walks with a cane. I have been taken in, as well as some of my friends in the neighboring cities, and my object is to expose the fellow.

S. K. CHURCH, M.D.

Pharmacology

The Danger of Medical Advice from the Manufacturers of Proprietaries.

Prof. A. Neisser, in an article on the treatment of gonorrhea (*Medizinische Klinik*, 1907, No. 14, p. 381) touches on a phase of the proprietary medicine question that has received too little attention. It may happen that the manufacturers of a really creditable proprietary, in extolling its merits, obscure the importance of other treatment which is essential for the cure of disease. Neisser advocates local treatment as essential for the cure of gonorrhea. He admits that balsamic remedies may be of service by lessening pain and swelling, but he fears them on tactical grounds. He says:

"Precisely their utility in reducing discomfort and the annoying and accidental suppuration conceals the danger that not only the laity who treat themselves without the aid of a physician, but also those physicians who do not control by the microscope the condition of the gonococcus in cases of very scant secretion will be led to the belief that with the cessation of the distressing symptoms the disease has also disappeared. But this opinion is erroneous, as we have determined thousands of times since adopting the use of the microscopic examination of the secretion; in spite of the extreme scantiness of the discharge the gonorrhea still continues.

"But I oppose most emphatically all praise and recommendation of internal remedies in which the absolute necessity of treating every gonorrhea locally is either obscured or denied and, therefore, a large number of articles and manufacturers' circulars on gonosan, santyl, and especially on arrhovin, have caused me to protest publicly against this propaganda, because I must recognize a danger to the public health in this displacing of local treatment by means of internal treatment which is much more convenient to the public. I know very well that this supplanting of local treatment is unintentional, but I fear very much that the symptomatic treatment of gonorrhea which prevailed twenty-five years ago and which was so injurious and was displaced with so much trouble and labor, will again gain ground if the great public by a misconception of the circulars should give its preference again to the internal treatment of gonorrhea."

Neisser calls attention to the articles of Saar, Schindler, Seibert, and Kaiser which have led to the following conclusions:

Arrhovin applied externally, internally or combined, shows absolutely no influence on the gonococci; the external treatment is adapted to bring on complications; the internal treatment does not oppose them and can not hinder their appearance. With both methods of treatment the process has a tendency to become chronic.

The Nostrum.

In the *Druggists Circular*, a pharmaceutical journal which stands for clean pharmacy, Francis B. Hays has the following to say about the nostrum:

"There is only one name for the secret medicine. That name, through association with disreputable articles and methods, has ceased to be pleasing to the ear of the secret-medicine manufacturers, so more euphonious (as well as erroneous) substitutes for it have come into use. 'Patent medicine' is one of these; but as 'patent' means the very opposite of secret, its use in this connection is plainly wrong. 'Proprietary remedy' is a little nearer correct, but really the manufacturer of a secret remedy has no legal proprietary rights in it, as anyone who by his skill and ingenuity can learn to make the secret medicine has a legal right to do so, and to sell it under the name by which it is known. Therefore it is hardly proper to speak of the secret medicine as a proprietary remedy. What then shall we call it if we wish to be correct? The nostrum.

"Newspapers with their usual desire to be sensational have lately been printing big headlines about the 'drug trust.' This is prejudicial to the best interests of pharmacy. What put the pharmacist into a position to be regarded as a part of a trust? The nostrum."

"Some time ago the pharmacist was lampooned and cartooned as a thief, murderer, substitutor. What was at the bottom of his campaign of villification? The nostrum.

"Many physicians refuse to write prescriptions, saying that they will not send their patients to stores whose windows are filled with a disgusting display of goods fraudulently masquerading as cure-alls. What constitutes this display? The nostrum.

"Many men who are good citizens from the banker's standpoint, and who are high in civic and social circles, lie about their goods and frequently obtain the last pennies of the poor and ignorant under false pretenses. What makes them do this? The nostrum.

"When we go to the legislature to ask for laws which we want or to prevent the passage of laws which we do not want, we frequently are opposed by doctors, board-of-health officials, temperance women, and antinarcotic committees, who tell legislators that we represent an interest that is opposed to that which is best for the public. On what do they base their charge? The nostrum.

"What is a good thing for druggists to give a wide berth to in all matters pertaining to protective legislation? The nostrum.

"What is a good thing for druggists to accept—if they must accept it at all—only as a necessary evil, and not to endorse in print or by display, or to recommend by word of mouth? The nostrum."

Toxic Action of Atoxyl.

Since atoxyl is an arsenical preparation it was to be expected that under some circumstances it would develop toxic action. At the meeting of the Paris Therapeutic Society, October 22, Marie reported (*Journal de Pharmacie et de Chimie*, Dec. 4, 1907), some toxic results occurring in the course of treatment of the syphilitic insane, particularly those affected with general paralysis and tabes. In twelve cases one showed improvement of the disease (beginning general paralysis) after exhibiting serious symptoms of poisoning. On the other hand, in patients with advanced disease, poisoning showed itself by symptoms of paralysis, blindness, vertigo, nausea, vesical disturbances, etc., after the fourth injection. These patients, as Dr. Hallopeau foresaw, derive no benefit from atoxyl. In a very small dose anilin arsenate (atoxyl) may produce in the same patients a beneficial effect as an arsenic compound, but its utility in this respect is surpassed by cacodylate of sodium as an agent for the physical improvement of those patients on the verge of cachexia.

Bardet cautioned against the use of this drug and stated that the most serious accident attributable to it was the production of blindness in a certain number of patients. He thought this symptom should be attributed to neuritis produced by the arsenic.

Serini, on the other hand, was in doubt as to what the symptom was to be attributed to, since ophthalmoscopic observations had not been published.

The toxicity of atoxyl, according to Chassevant, depends on its decomposition, without which it does not appear to be active therapeutically. In this decomposition anilin is set free and part of the toxic symptoms are no doubt due to this substance which, when inhaled in small quantity, is capable of producing death. He advises the experimental determination of the proportions in which a mixture of arsenic and anilin will give useful therapeutic action without fear of poisoning.

The Absorption of Remedies in Pill Form.

In order that a medicine given in pill form shall be quickly absorbed, it is necessary that the pill disintegrate readily in the stomach or intestine. For this result much depends on the

V 50
1908

composition of the pill excipient. E. Rieben (*Archiv der Pharmazie*, Nov. 23, 1907) has investigated the effects of excipients of different composition, using potassium iodid as the medicinal agent, and examining the urine for several hours after the ingestion of the pill, to determine how soon iodin appeared in it and when the greatest amount of absorption took place. The pills were tried when freshly prepared, after keeping them two weeks, and after 65 days.

In all cases the absorption and excretion of the potassium iodid were markedly delayed as compared with the result when it was given in watery solution. The delay was most noticeable when the excipient was wax and oil. Pills made with white sugar and acacia, which have been recommended by Kobert, permitted only a limited absorption of the medicine. Those made with kaolin (bolus alba) gave better results, the best combination with this excipient being with simple syrup and wool fat (lanolin). The use of glycerin, recommended in the German pharmacopeia, was somewhat less favorable.

The best results were achieved with vegetable powders such as licorice and althea. At the head stands the combination of licorice root and syrup; the pills prepared in this way showed no reduction of absorbability after two weeks, and very little after nine weeks. It is noticeable that the excipient so much condemned by Kobert, viz., althea root and mucilage of acacia, deserves a better reputation; nine-weeks-old pills disintegrated as quickly as fresh ones made with sugar and mucilage of acacia. Pills made with medicated soap stand nearly as well as those prepared with licorice or althea. It is important to note that silver coating of pills hinders their disintegration and absorption.

Miscellany

Scopolamin Analgesia in Obstetrics.—A. Bertino, assistant at Professor Resinelli's obstetric-gynecologic clinic at Florence, Italy, publishes in the *Ginecologia*, Oct. 31, 1907, a report of 400 obstetric cases in which he administered scopolamin and morphin for the anesthetic effect. His conclusions from this experience are to the effect that the method is not free from danger for the fetus, that the scopolamin is unreliable, as no analgetic action at all was apparent in 36 per cent. of the 400 women, and that in the majority of cases the pains of labor are attenuated, but frequently with considerable impairment of the regularity of the uterine contractions. In 38 cases labor was suspended and retrogressed. In 14 cases the contractions of the uterus were arrested from 2 to 7 hours; in 8 from 8 to 24 hours; in 4 from 1 to 2 days; in 4 from 3 to 4 days; in 4 from 5 to 6 days; in 2 from 10 to 11 days, and in 2 from 17 to 18 days. He does not attribute this suspension and retrogression of the labor to the morphin associated with the scopolamin, as it occurred with about the same frequency in the cases in which the amount of morphin had been reduced to one-half or one-fourth of the usual dose. He says: "We commenced the use of scopolamin in 1905, using at first the customary dosage of 0.0005 gm. (1/134 grain) scopolamin and 0.01 gm. (1/6 grain) morphin, giving a single injection of each in 265 cases. Having observed, however, that the intensity and frequency of the uterine contractions were diminished as the sensation of pain was reduced, and that the women were somnolent, I thought I would reduce the amount of morphin to one-half or one-quarter the above. This was done in 51 cases, but even with this dosage the same inconveniences were observed, and I injected the scopolamin alone, in the dose of 0.0001 gm. (1/670 grain). I never felt the necessity to make more than two injections, and thus I never reached the doses to which Gauss arrived, because I either obtained the desired result with the first or with the second injection, or else observed an injurious effect on the progress of the childbirth." He made a single injection of 0.0005 gm. (1/134 grain) scopolamin plus 0.01 gm. (1/6 grain) morphin in 265, and the same amount of scopolamin plus half or quarter the dose of morphin in 51 cases. In 84 he made two injections; in 55 injecting 0.0005 gm. scopolamin plus 0.01 gm. morphin, and following with a second injection later of 0.0001 gm. (1/670 grain) scopolamin, not repeating the morphin. In 20 cases he gave the same first injection, following later with half the amount of each. In 9 others he injected first 0.0005 gm. (1/134 grain) scopolamin and 0.005 or 0.0025 gm. (1/12 or 1/24 grain) morphin, following later with 0.00025 gm. (1/268 grain) scopolamin and 0.0025 gm. (1/24 grain) morphin.

"In some cases," he continues, "the effect was beneficent, and delivery progressed without any complications; in others the desired effect failed entirely, and in others complications were observed for which the anesthetic was certainly responsible."

Another table shows that 60 primiparæ and 120 pluriparæ had their pains reduced in intensity, with valid contractions, that is, satisfactory results in 45 per cent. of his total material. In 6 primiparæ and 32 pluriparæ the pains were reduced, but the contractions became less frequent and weak, that is, in 9.5 per cent. In 52 primiparæ and 92 pluriparæ, no effect was apparent, that is, in 36 per cent., and in 6 primiparæ and 32 pluriparæ, that is, in 9.5 per cent., labor was arrested. He remarks that "frequently, during the period of expulsion, while the uterus was contracting regularly, the contractions of the abdominal wall, usual during this stage, were lacking, and the patients had to be asked to reinforce the uterine contractions. Only in rarest cases was the complete scopolaminic analgesia obtained as described by the German authors."

In respect to the fetus he says: "Even in the cases in which the scopolamin produced the desired effect of simply alleviating the sufferings of the patient, especially if the interval between the injection and the parturition was brief, it was noticeable how frequently the fetus had experienced the influence of the anesthetic used. This influence was manifested by a prolongation of the period of apnea which generally follows delivery, with a certain torpidity of the respiration center of the infant, owing to which, when respiration commenced, it occurred in a superficial manner, and, finally, a state of somnolency in the fetus, which lasted for a shorter or longer time. It was necessary in certain cases to stimulate with rather rough measures to start the infant to breathing spontaneously, and to make the respiration normal when the infant screamed under these maneuvers. Occasionally these measures had to be kept up for some time to keep the infant awake, as otherwise it dropped to sleep and respiration became shallow again, while slight cyanosis developed. This condition of prolonged apnea and oligopnea is evidently to be attributed to the action of the scopolamin because, I repeat, the delivery in these cases had not been retarded, and in some of them labor had been very rapidly terminated by expulsion." He adds that "no further disturbances were noted among the infants later; all the inconveniences were limited to those observed in the first hours after birth." He states further: "Twenty-six of the infants were born more or less asphyxiated, and although all were revived, yet some did not escape ulterior complications on the part of the respiratory apparatus, such as in one case resulted fatally in a few days. These infants were mostly in the cases in which labor had been abnormally prolonged, and only a few were in the cases in which the scopolamin had failed to produce any appreciable effect." Six of the infants died during labor, but in three instances the cord was looped around the neck, and one infant succumbed during forceps extraction, labor having been arrested, and several days having elapsed between the single injection and the childbirth. He adds: "There thus remain two fatalities in which there is no explanation for the cause of death; it can, therefore, be imputed with probability to the prolongation of labor which occurred in consequence of the use of scopolamin." "Reviewing these fatalities, in connection with the complications which did not prove fatal, for the fetus, we see that the percentage of cases in which abnormal phenomena occurred is still too high for us to be able to accept the assertions of the writers who proclaim that scopolamin is harmless in respect to the fetus. We are convinced, instead of this, that it is dangerous for the fetus, and if even there were only a single case in which there was a doubt of an unfavorable action from the scopolamin on the product of conception, such as to threaten its life, it would be equally our duty to advise against the extension of the use of this analgetic in obstetrics."

He thinks that it is probable that a special idiosyncrasy to

scopolamin may exist. "This is demonstrated," he adds, "by the cases of intoxication and death that have occurred in scopolamin morphin anesthesia for surgical purposes."

"For all these reasons," he continues, "I do not think that the extension of the use of scopolamin for parturients should be advocated, especially in private practice, lacking the constant oversight and the means necessary for combating eventual complications." In 70 women he noticed general disturbances, sometimes prolonged for days, undoubtedly due to scopolamin. Extreme mydriasis and visual disturbances persisting longer than twenty-four hours were noted in 56; mental confusion, hallucinations and subdelirium in 10, and obstinate vomiting in 4 cases. "Although these complications did not have any serious lasting effect," he remarks, "yet they demonstrate that scopolamin is not an entirely harmless anesthetic, and, compared with the complications that follow the use of other anesthetics, chloroform, for instance, in the obstetric dosage, it must be conceded that the scopolamin does not surpass it." Its effect on the third stage of labor can not be considered as harmful, he adds, judging from his experience. The third stage of labor proceeded normally in every instance.

The article concludes with a list of twenty-two articles that have been published on the use of scopolamin in obstetrics, all of which have been summarized in these columns as they appeared, with the exception of a thesis by Wartapetian, 1904, Puschnig's article in *Gyn.*, 1905, and Steinbüchel's work, 1903.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DETERMINATION OF OPIUM OR ITS ALKALOIDS IN URINE.

JACKSON, MICH., Dec. 20, 1907.

To the Editor:—Please tell me if there is any test that can be carried out, without a large amount of time or laboratory equipment, to determine by urinary analysis the presence of opium or its alkaloids. As a physician in a penitentiary, with a constant fight against its being smuggled in, I should be very much assisted if I could detect opium in the urine, without too much manipulation, when taken in the doses used by the average habitué.

G. R. PRAY.

ANSWER.—The detection of alkaloids, especially of morphin, is never a simple matter. Before working on unknown solutions the operator should always learn to detect alkaloids in mixtures known to contain them and made up for the purpose of studying the test. In examining the urine for morphin in cases of poisoning, it must be borne in mind that the amount present in that fluid is likely to be small. Several observers have failed to detect the drug in cases in which there was no doubt of its having been taken in large doses. Morphin is excreted chiefly by the stomach and bowels, and hence the best material for examination is the vomitus or the feces. There is reason to believe that the greater part of that which remains in the blood is oxidized, and that only a small part is excreted by the kidney. In cases of the ordinary consumption of morphin by habitués it is not probable that the urine would contain more than a fraction of a grain. One who wishes to search for morphin in urine would do well to begin by adding say one-fourth of a grain to a pint of urine and see if by the method recommended he can detect morphin in 100 c.c. of the mixture. Morphin can be precipitated from its solution by Lugol's solution of iodin in potassium iodid. This method has been applied to urine, but is faulty for two reasons: First, it often fails when detectable amounts of the alkaloid are present; second, it may cause precipitates in normal urine. The following method is similar to those used in toxicology, and would probably be safe in cases in which it was desired to detect the morphin only, other alkaloids being absent:

Take as much as 250 c.c. of the urine and evaporate in a shallow dish over a water bath that is kept just below the boiling point until the liquid has reached a syrupy consistency. Stir the residue with 95 per cent. alcohol which has been acidified with a few drops of acetic acid and filter. Wash the residue on the filter with acidified alcohol of the same strength as that used for extraction. Unite the filtrate and the washings and evaporate at a gentle heat on the water bath until the alcohol has disappeared. Treat the residue with water slightly acidified with sulphuric acid and filter if need be. Put the solution in a large test tube and cover with four or five times its volume of a mixture of absolute ether and alcohol in the proportion of two volumes of the former to one of the latter. Add ammonia water to the mixture until the watery liquid has a slight alkaline reaction; then agitate gently, taking care that no emulsion is formed. Separate the ethereal liquid and repeat the extraction with a new quantity of the mixture of alcohol and ether. The ethereal extracts are now united and allowed to evaporate spontaneously. The morphin may be left in crystals or in an amorphous mass. Test the residue or a portion of it if the quantity permits with Fröhde's reagent as follows:

The reagent is made by dissolving 2 milligrams of molybdic acid in 1 c.c. of strong sulphuric acid. If heat is used in making the solution the liquid is afterward cooled, and it should be colorless when cold. A glass rod is dipped in this solution and drawn across the residue on the watch glass. If morphin is present a deep purple color appears shading into violet blue and then into tints of blue and green which are not characteristic of morphin. If the purple or violet color does not appear the reaction can not be taken to indicate morphin. Other but less delicate reactions for morphin are: (1) a blue color when touched with solution of ferric chlorid and (2) a red color given by strong nitric acid.

If there is reason to believe that the drug has been taken in the form of some preparation of opium, the isolation and detection of meconic acid may be easier and affords as certain evidence of the use of opium as the finding of morphin. For this purpose, the liquid to be examined is treated with basic acetate of lead as long as precipitate continues to form when the liquid is boiled and allowed to cool. When cold it is filtered and the precipitate washed with cold water. The precipitate contains the meconic acid of any opium present. It should be washed off the filter with water and decomposed by passing a rapid stream of hydrogen sulphid. The liquid is next filtered and concentrated to a small bulk by evaporation at as low temperature as possible. It should then be placed in a porcelain dish and tested with ferric chlorid, which will produce a purplish red coloration if meconic acid be present.

In case this method be adopted, the filtrate from the lead precipitate will contain any morphin which may have been present. It should be freed from lead by hydrogen sulphid, the precipitate of lead sulphid filtered off and washed, and the filtrate and washings evaporated to a syrup and extracted with acidified alcohol as described above.

In the above directions, the attempt has been made to give a simple and reliable method, but the physician examining the urine in this way for morphin in suspected cases of poisoning or addiction must be prepared for frequent failure on account of the small amount excreted by the kidneys.

THE NEGRI BODIES IN HYDROPHOBIA.

STILLWATER, Minn., Dec. 26, 1907.

To the Editor:—I would like to know the latest opinion regarding the Negri bodies. What are they, and how much significance have they in the diagnosis of hydrophobia? Can you refer me to any recent papers on hydrophobia? W. R. HUMPHREY.

ANSWER.—These queries were fully answered in THE JOURNAL, Aug. 3, 1907, p. 430. In addition we refer to articles by Dr. D. J. Davis, in THE JOURNAL, July 14, 1906, p. 87. An opinion unfavorable to the diagnostic value of these bodies is expressed by N. G. Keirle, in an article in the *New York Med. Jour.*, Feb. 23, 1907, an abstract of which appeared in THE JOURNAL, March 3, 1907, p. 904. On the other hand, W. Litterer regards them as living protozoa and as the etiologic factors in the disease (THE JOURNAL, April 27, 1907, p. 1453).

CONTINUOUS RECTAL INFUSION.

——, Wis., Dec. 28, 1907.

To the Editor:—Please give me a description of the proper technic to be followed in administering "continuous rectal infusion" in patients suffering with acute peritonitis. Is this irrigation equally applicable to both localized and general peritoneal infections? How long may the irrigation be kept up? What symptoms should govern the application and cessation of this therapeutic measure? DR. W.

ANSWER.—Continuous rectal infusion can be accomplished by placing the fountain syringe one or two feet above the level of the bed and securing a permanent tube in the rectum by an adhesive strip around the leg. "This can be kept in position from 24 to 48 hours without inconvenience to the patient. The best results are obtained with the syringe at such a height that it will require from 40 to 60 minutes for 1 or 1½ pints to flow. This should be repeated every two hours. The normal condition of the large intestine is one of semidistension. It will not tolerate overdistension without spasmodic contraction. The rectal acceptance of the saline solution, therefore, depends on the gradual admission of the fluid. The stomach physiologically does not absorb water, but passes it on into the intestine for absorption. In peritonitis, this transition does not take place, therefore, the most available means of reducing the thirst, diluting the poison, favoring elimination, restoring blood pressure, avoiding capillary and venous thrombosis, and tiding the patient over the critical period is the administration of large quantities of water."

V 50
1908

The above are the directions given by Murphy in the volume on surgery of the "Practical Medicine Series," November, 1903, p. 282. Murphy uses this treatment in all cases of acute peritoneal infection. He finds it very serviceable in acute septicemia, acute anemia and anuria, and beneficial after operations on the prostate, bladder and kidney. He thinks it should be effective in the toxic stages of pneumonia, scarlatina and nephritis.

Kothe (*Therapie der Gegenwart*, October, 1907) adopts a similar technic, introducing a pint in 2 or 3 hours. He sometimes adds 150 grams (5 ounces) of grape sugar to 3 liters of the solution and thus administers nutriment as well as liquid.

The treatment is as applicable to localized as to general infection. The length of time that it should be kept up would depend on the tolerance of the patient and the persistence of the symptoms of intoxication from the disease. The danger of overloading the circulation with liquid should be borne in mind and the condition of the heart and blood vessels carefully watched. Undue distension of the large intestine should also be taken as an indication for suspending the infusion or omitting it altogether.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of December, 1907:

ALABAMA.

Fennell, J. W., Landersville.
Manasco, Orizaba, Townley.

ARIZONA.

Ferguson, Robert, Bisbee.

ARKANSAS.

Davis, R. G., Hot Springs.
Little, R. L., Judsonia.
McConnell, C. A., Hot Springs.
Proctor, J. M., Hot Springs.

CALIFORNIA.

Arthur, E. A., Stockton.
Banks, W. H., Sterling City.
Barr, W. T., Fresno.
Butler, Joseph, San Francisco.
Carey, H. R., San Francisco.
Castle, C. H., Merced.
Clarke, A. F., Oakland.
Clarke, Louise H., Riverside.
Coppedge, W. E. Alturas.
Cowden, A. F., San Francisco.
Fly, R. J., National City.
Hennemuth, J. L., Waterford.
Kjaerbye, C. P., Fresno.
Martin, Jean A., San Francisco.
Miller, H. A., Alameda.
Mize, G. H., San Francisco.
Page, C. W., Berkeley.
Parker, Ida B., Orange.
Rice, W. H., Oakland.
Rosson, C. F., Hanford.
Smythe, Hudson, Stockton.
Valle, C. C., San Diego.
Van Dalsem, W. S., San José.
Willson, L. R., Fresno.
Wolfsen, L. H., Merced.
Wright, F. L., Oakland.
Zeimer, I. S., Stockton.

COLORADO.

Barney, N. E., Sterling.
Pankhurst, C. T., Brush.

CONNECTICUT.

Avery, J. W., Noroton.

DISTRICT OF COLUMBIA.

Brackett, J. E., Washington.
Deale, H. B., Washington.
Foye, A. F., Washington.
Martyn, H. E., Washington.
Moore, S. E., Washington.
Talbott, J. A., Washington.

GEORGIA.

Gregory, F. B., Macon.
Swint, R. C., Milledgeville.

ILLINOIS.

Ambrose, C. S., Mt. Olive.
Boone, H. B., Chandlersville.
Bozinch, M. F., Chicago.
Brenneman, W. E., Chicago.
Canatsey, E. D., Bluffs.
Clay, W. E., Mt. Carroll.
Deitrich, L. S., Chicago.
Elliott, F. O., Chicago.
Findlay, E. K., Chicago.
Freeman, T. O., Mattoon.
Gilliatt, C. E., Allendale.
Higgs, J. I., East St. Louis.
Kirby, A. D., Chicago.
La Due, B. E., Ottawa.
Myers, N. D., Decatur.
Neidringhaus, R. E., Granite City.
Norcross, E. P., Chicago.
Pond, D. B., Chicago.
Sailing, W. J., Stonington.
Sexton, Roy, Streator.
Shierbaum, A. E. P., Marine.
Short, W. T., Stonington.
Smith, W. L., Toledo.
Steely, G. W., Louisville.
Stough, J. A., Chicago.
Thorpe, J. N., Chicago.
Trull, Jane C., Elgin.
Viers, J. W., Chicago.
Wakefield, A. P., Springfield.
Wilcox, S. H., Shattuc.

INDIANA.

Beall, C. G., Ft. Wayne.
Earp, R. B., Dunkirk.
Hughes, W. F., Indianapolis.
Krebs, M. H., Huntington.
McClure, S. W., Aurora.
Swantusch, O. H., Metz.
Tallman, H. H., La Paz.
Thompson, H. H., Noblesville.
Wimmer, G. G., Mt. Etna.

INDIAN TERRITORY.

Butts, A. M., Holdenville.
Connedge, C. E., Bixby.
Nickson, J. W., Loco.

IOWA.

Bishop, A. H., West Bend.
Carle, F. C., Garrison.
Fullerton, O. L., Redding.
Lackum, H. J., von Dysart.
Richmond, A., Nevada.
Shohan, R. F., Eddyville.

KANSAS.

Anlin, C. B., Delphos.
Carson, A. W., Ireland.
Fuller, J. A., Lane.
Williams, C. L., Neodosha.
Winslow, C. W., Oakley.

KENTUCKY.

Adair, J. M., Claypool.
Bush, W. A., Winchester.
Cowley, R. H., Beren.
Crittenden, A. M., Ferguson.
Liles, J. D., Garrison.
Muir, G. E., Lexington.
Read, H. L., Louisville.
Tyler, W. L., Curdsville.
Warren, Marion, Estelburg.
Wedding, S. J., Hartford.
Wilhoyte, R. E., Louisville.

LOUISIANA.

Gray, R. H., Shreveport.
Thiberge, Narcisse F., New Orleans.

MAINE.

Donnell, F. E., Gardiner.
Moulton, W. B., Portland.

MARYLAND.

Boucher, S. A., Barton.

MASSACHUSETTS.

Carney, P. J., Worcester.
Gregg, Donald, Cambridge.
Robbins, E. S., West Bedford.
Wells, O. Y., Westford.
Watters, W. H., Boston.

MICHIGAN.

Blain, A. W., Jr., Detroit.
Haynes, H. A., Lapeer.
Miller, R. R., Harbor Springs.
Rice, O. N., Tipton.
Whitaker, W. I., Durand.

MINNESOTA.

Holdridge, G. A., St. Cloud.

MISSISSIPPI.

Bonelli, Vincent, Vicksburg.
Gilbert, W. F., Tyro.
Ivy, T. G., West Point.

MISSOURI.

Clark, J. F., Rayville.
Cline, J. A., Vanduser.
Des Mond, H. Ex, Plattsburg.
Dutzi, August, St. Louis.
Graul, H. P., St. Louis.
Gregg, A. M., St. Louis.
Kuhn, H. P., Kansas City.
Leith, L. R., Butterfield.
MacCabe, R. S., Chaffee.
McMichael, A. O., Joplin.
Owen, W. C., St. Louis.

MONTANA.

Schulin, Carl, Billings.

NEBRASKA.

Faulk, A. J., Mitchell.
Howard, P. R., North Bend.
Wanek, A. E., Ashton.
Warta, J. J., Sargent.

NEW HAMPSHIRE.

Moody, H. A., Sanbornville.
Morrison, G. H., Whitefield.
Rowe, W. C., Andover.
Thompson, W. A., Manchester.
Towle, G. H., Raymond.

NEW JERSEY.

Burke, C. V., Newark.
Colie, E. M., Jr., East Orange.

NEW MEXICO.

Shields, J. M., Jemez Springs.

NEW YORK.

Amsbry, L. B., Utica.
Aronna, Carmelo, New York City.
Baldwin, C. H., Utica.
Banker, S. J., Ft. Edward.
Berens, T. Passmore, New York City.
Britt, W. Warren, Tonawanda.
Bronk, E. F., Amsterdam.
Bucton, James, Cooperstown.
Clurd, Marie L., New York City.
Cotter, J. M., Campbell Hall.
Cross, F. B., Brooklyn.
Cuthbert, W. C., Sandy Hill.
Doig, A. K., Nyack.
Ehinger, F. H., Ebenezer.
Foster, F. P., New York City.
Frost, H. P., Buffalo.
Griffin, H. H., New York City.
Heitlinger, J. A., New York City.
Henckell, A. W., Rochester.
Horstman, A. G., Brooklyn.
Howell, H. P., New York City.
Jeffrey, A. McL., New York City.
Jones, Lucy C., New York City.
Jova, A. V., Newburgh.
Kaliski, D. J., New York City.
Lambert, S. W., New York City.
Leonard, Z. L., New York City.
Lockwood, B. F., Frewsburg.
Martine, Angeline, Utica.
McAmmond, J. F., Scottsville.
McCabe, V. V., New York City.
Medd, J. C., Brooklyn.
Mendiola, F. A., Buffalo.
Meyers, Jerome, Albany.
Mills, G. W. T., Central Islip.
Moore, A. N., Lockport.
Phinney, L. N., Wampingers Falls.
Pool, W. P., Brooklyn.
Pullman, James, Brooklyn.
Rankin, John, Brooklyn.
Reiss, Henry, New York City.
Riggs, A. F., New York City.
Robertson, F. W., New York City.
Seward, F. W., Goshen.
Shoop, F. J., Brooklyn.
Shorkley, T. M., Rochester.
Solley, F. P., New York City.
Straight, A. B., Harnell.
Thorp, J. W., Oxford.
Washborne, J. R., Delmar.
Washington, Walker, Tottenville.
Wellman, W. D., Jamestown.
Wiener, Solomon, New York City.
Williams, K. E., Rome.
Woodman, John, New York City.

NORTH CAROLINA.

Davis, George, Beaufort.
Gary, R. H., Murfreesboro.
Ray, J. B., Leaksville.
Warren, W. E., Williamston.

NORTH DAKOTA.

Burrows, F. N., Bathgate.
Gislason, G. J., Grand Forks.
Grant, George, Wishek.
Lyle, W. D., Havana.
Rice, P. F., Cannon Ball.
Roan, M. W., Bismarck.

OHIO.

Biebesheimer, G. A., Botkins.
Bradford, A. A., Bremen.
Brown, Howard A., Carroll.
Brumm, L. D., Celina.
Burnett, G. W., Greenville.
Byers, P. W., Arcanum.
Chamberlin, W. B., Cleveland.
Corboy, C. S., Winchester.
Cordier, H. J., Celina.
Craig, C. A., Ava.
Goudy, R. A., Newcomerstown.
Hecker, E. A., New Madison.
Herkner, H. A., Cleveland.
Hewitt, Jos. H., Cleveland.
Hughes, D. C., Findlay.
Jones, R. H., Midway.
Kineon, G. G., Gallipolis.
Lewis, H. A., Continental.
Marchant, Grant, Milledgeville.
Mellon, J. A., Columbiana.
Mulligan, J. E., Lima.
Newman, J. E., Leipsic.
Ockuly, J. F., Ottoville.
Pelley, H. J., Millport.
Ream, C. E., Bowersville.
Remy, Edw., Jr., Mansfield.
Richardson, D. H., Celina.
Roads, W. B., Hollansburg.
Scott, W. T., Martinsville.
Searl, W. A., Cuyahoga Falls.
Shumard, C. H., Ross.
Starr, J. O., Pillsbury.
Stemler, J. E., Cincinnati.
Stubbs, W. C., Celina.
Tuckerman, W. H., Cleveland.
Ulles, C., Springfield.
Warren, W. S., Jacobsburg.
Williams, G. L., Columbus.
Williams, W. W., Cleveland.
Wyler, J. S., Cincinnati.
Yoder, I. L., Cleveland.

OKLAHOMA.

Barnwell, J. T., Jr., Overbrook.
Baze, R. J., Chickasha.
Gray, A. W., Pauls Valley.
Hartshorne, W. O., Spiro.
Hathaway, A. H., Pontotoc.
Keller, F. P., von, Ardmore.
McIntosh, J. W., Sparks.
Mitchell, P. S., Haskell.
Powell, W. H., Palmer.
Rosenberg, F. J., Lexington.
Sandberg, E. A., Ames.
Wilson, H. P., Wynnewood.

OREGON.

Boals, R. T., Tillamook.
Start, H. A., Portland.

PENNSYLVANIA.

Akers, A. F., Gallitzin.
Allison, J. C., Porter Hall.
Banks, W. H., Mifflintown.
Beyer, J. W., Aspinwall.
Davis, David, Philadelphia.
Gans, C. C., Pittsburg.
Goodwin, W. C., Philadelphia.
Hartman, L. M., York.
Hopwood, W. H., Grindstone.
Karsner, H. T., Philadelphia.
Kercher, J. E., Philadelphia.
Little, W. W., Mosiertown.
Lyon, A. K., Allegheny.
McKenna, W. R., Pittsburg.
Mervine, R. B., Hillsgrove.
Mumford, S. A., Philadelphia.
O'Malley, Austin, Philadelphia.
O'Neill, Joseph, Philadelphia.
Powell, F. W., Honesdale.
Ragan, Thomas, Ruston.
Schaefer, C. N., Pittsburg.
Spangler, R. H., Philadelphia.
Stevenson, J. D., Aliquippa.
Stiles, F. A., Philadelphia.
Tidd, R. M., Clark.

RHODE ISLAND.

Cooke, C. O., Providence.
Ricker, C. H., Block Island.

SOUTH CAROLINA.

Johnston, J. B., St. George.
Ward, J. LaB., Georgetown.

TENNESSEE.

Gaines, S. E., Sparta.
Minor, H. F., Memphis.

TEXAS.

Carver, C. R., Sterling City.
Dixon, Archibald, Jr., El Paso.
Harral, R. D., Honey Grove.
Keidel, Victor, Fredericksburg.
Langford, M. L., Mart.
Pressley, W. R., Haskell.

Vinyard, S. P., Amarillo.
Works, B. O., Brownsville.

VERMONT.

Beecher, C. H., Burlington.
Darling, S. E., Hardwick.
Gammons, J. L. Poultney.

VIRGINIA.

Black, R. A., Hot Springs.
Burke, J. M., Petersburg.
VanderHoof, Douglas, Richmond.

WASHINGTON.

Howard, H. W., Prosser.
Moore, J. C., Seattle.

WEST VIRGINIA.

Shriver, G. W., Middlebourne.

WISCONSIN.

McCarthy, T. H., Janesville.

WYOMING.

Spencer, A. E., Grey Bull.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 4, 1908:

Shimer, L. A., asst.-surgeon, relieved from duty as attending surgeon in New York City, and ordered to the Philippine Islands for duty, to sail from San Francisco, about Feb. 5, 1908.

Flagg, C. E. B., asst.-surgeon, relieved from duty at Fort Crook, Neb., and ordered to the Philippine Islands for duty on transport to sail from San Francisco, about Feb. 5, 1908.

Greenleaf, H. S., and Williams, A. W., asst.-surgeons, relieved from duty in the Philippine islands, and will proceed on the transport to sail from Manila on or about March 15, 1908, to San Francisco, and on arrival report by telegraph to the Adjutant General of the Army for further orders.

Crosby, W. D., McCaw, W. D., and Winter, F. A., surgeons, appointed members of a board of officers to meet at the Army Medical Museum Building in this city, for the examination of such officers of the Medical Department as may be ordered before it to determine their fitness for advancement or promotion.

Shimer, L. A., surgeon, ordered to report in person on Tuesday, Jan. 7, 1908, to Major William D. Crosby, surgeon, president Examining Board, Army Medical Museum, this city, for examination to determine his fitness for promotion.

Owen, L. J., asst.-surgeon, on expiration of his present leave of absence will proceed to Columbus Barracks, Ohio, for duty.

Morris, E. R., and Munson, E. L., surgeons, appointed members of board to meet at Jeffersonville, Ind., for the examination of such officers of the Quartermaster's Department as may be ordered before it to determine their fitness for promotion.

Brown, O. G., asst.-surgeon, relieved from further temporary duty at Jefferson Barracks, Mo., and will return to his proper station, Fort Robinson, Neb.

McCaw, W. D., surgeon, and Russell, F. F., asst.-surgeon, appointed members of a board to meet in Washington, D. C., for the purpose of conducting such experiments as may be necessary regarding the efficiency of the Darnall filter for the purification of water, and its adaptability to the use of troops in the field.

Richards, R. L., asst.-surgeon, ordered to report in person on Jan. 14, 1908, to Major W. D. Crosby, surgeon, president, examining board, Washington, D. C., for examination to determine his fitness for advancement.

Duncan, L. C., asst.-surgeon, granted four months' leave of absence, with permission to go beyond the sea.

Powell, J. L., surgeon, leave extended 10 days.

Tignor, E. P., dental surgeon, left Fort Ontario, N. Y., and arrived at Madison Barracks, N. Y., for duty.

Hussey, S. W., dental surgeon, ordered to Fort Lincoln, N. D., for 30 days; Fort Yellowstone, Wyo., 30 days; Fort William Henry Harrison, Mont., 30 days; Fort Missoula, Mont., 30 days; and on the return trip to Fort Snelling, Minn., to spend 15 days more at each of the first three mentioned posts.

Voorhies, H. G., dental surgeon, ordered, at expiration of present sick leave of absence, to Fort Leavenworth, Kans., for observation and treatment.

Hutson, T. O., contract surgeon, relieved from treatment at Hot Springs, Ark., and ordered to his home, Beaufort, S. C., for annulment of contract.

Harmon, D. W., contract surgeon, returned to duty at Fort Hancock, N. J., from leave of absence for one month.

Dunbar, L. R., contract surgeon, left Fort Terry, N. Y., on leave of absence for ten days.

Trotter-Tyler, Geo., contract surgeon, returned from temporary duty at Fort Hancock, N. J., to duty at Fort Adams, R. I.

Freeland, H. L., contract surgeon, left Fort Leavenworth, Kans., on leave of absence.

Watkins, V. E., contract surgeon, relieved from duty at Plattsburg Barracks, N. Y., and ordered to Fort Greble, R. I., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 4, 1908:

Michels, R. H., P. A. surgeon, detached from the Naval Recruiting Station, Kansas City, Mo.

Dessez, P. T., asst.-surgeon, detached from the Naval Hospital, Boston, and ordered to the Naval Recruiting Station, Kansas City, Mo.

Sellers, F. E., asst.-surgeon, detached from the *Wilmington* and ordered to the Naval Hospital, Annapolis, Md.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 1, 1908:

Williams, L. L., surgeon, granted leave of absence for 10 days from Jan. 8, 1908.

Stoner, J. B., surgeon, leave of absence granted for 10 days from Dec. 13, 1907, amended to read 7 days only.

Sprague, E. K., P. A. surgeon, granted leave of absence for 7 days from Dec. 31, 1907.

Lavinder, C. H., P. A. surgeon, granted leave of absence for 1 month from Jan. 12, 1908.

Lumsden, L. L., P. A. surgeon, granted leave of absence for 6 days from Dec. 24, 1907, under Paragraph 191, Service Regulations.

Francis, E., P. A. surgeon, granted leave of absence for 5 days from Dec. 31, 1907.

Robertson, H. McG., P. A. surgeon, granted extension of leave of absence for 10 days from Jan. 4, 1908.

Frost, W. H., asst.-surgeon, granted leave of absence for 1 day.

Browne, R. W., acting asst.-surgeon, granted leave of absence for 2 days from Dec. 23, 1907, under Paragraph 210, Service Regulations.

Frick, John, acting asst.-surgeon, granted leave of absence for 5 days from Jan. 1, 1908.

Holland, D. J., acting asst.-surgeon, granted leave of absence for 3 days from Dec. 26, 1907, under Paragraph 210, Service Regulations.

Nute, A. J., acting asst.-surgeon, granted leave of absence for 9 days from December 23, instead of 10 days from Dec. 21, 1907.

Stanton, J. G., acting asst.-surgeon, granted leave of absence for 14 days on account of sickness, from Dec. 5, 1907.

Watkins, McD., acting asst.-surgeon, granted leave of absence for 2 days from Dec. 26, 1907.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General Public Health and Marine-Hospital Service, during the week ended Jan. 3, 1908:

SMALLPOX—UNITED STATES.

California: Los Angeles, Dec. 15-21, 13 cases, San Francisco, 10 cases.
District of Columbia: Washington, Dec. 15-21, 1 case.
Florida: Tarpon Springs, Dec. 15-21, 3 cases.
Illinois: Chicago, Dec. 22-28, 2 cases; Springfield, Dec. 13-19, 9 cases.
Indiana: Indianapolis, Dec. 16-22, 1 case; Lafayette, Dec. 17-23, 2 cases.
Kansas: Wichita, Dec. 15-21, 5 cases.
Kentucky: Covington, Dec. 15-21, 1 case.
Maryland: Baltimore, Dec. 22-28, 1 case.
Massachusetts: Boston, Dec. 15-21, 1 case; Fall River, Dec. 22-28, 1 case.
Michigan: Saginaw, Dec. 15-21, 14 cases.
Minnesota: Winona, Dec. 15-21, 1 case.
Missouri: St. Louis, Dec. 15-21, 1 case.
Nebraska: Nebraska City, Dec. 8-21, 2 cases.
New York: New York, Dec. 15-21, 3 cases; Niagara Falls, 2 cases; Syracuse, Dec. 15-24, 1 case.
North Carolina: Greensboro, Dec. 15-21, 1 case.
Ohio: Cincinnati, Dec. 21-27, 2 cases.
Pennsylvania: Erie, Dec. 20-26, 2 cases.
Tennessee: Knoxville, Dec. 15-21, 2 cases; Nashville, 10 cases.
Texas: San Antonio, Dec. 15-21, 1 case.
Washington: Tacoma, Dec. 15-21, 4 cases.
Wisconsin: La Crosse, Dec. 15-21, 3 cases; Milwaukee, 4 cases.

SMALLPOX—FOREIGN.

Africa: Algeria—Algiers, Nov. 1-30, 2 deaths.
Argentina: Rosario, Sept. 1-30, 3 deaths.
Brazil: Bahia, Nov. 2-30, 157 cases, 3 deaths; Para, Dec. 1-7, 9 cases, 2 deaths; Rio de Janeiro, Nov. 18-24, 37 cases, 5 deaths.
Canada: Nova Scotia—Halifax, Dec. 15-21, 1 case; Ontario Province, Dec. 19, outbreak reported in several places; Belleville, Dec. 17-23, 4 cases.
China: Shanghai, Nov. 18-24, 5 cases, 11 deaths, cases foreign, deaths native.
Ecuador: Guayaquil, Dec. 1-7, 4 deaths.
France: Paris, Dec. 1-7, 8 cases.
Germany: General, Nov. 17-23, 1 case.
India: Calcutta, Dec. 1-7, 2 deaths.
Japan: Kobe, Nov. 21-27, 23 cases, 2 deaths; Yokohama, Nov. 28-Dec. 3, 1 case; Malta, Dec. 1-7, 1 case, 1 death.
Mexico: Aguas Calientes, Dec. 9-15, 3 deaths.
Panama: Colon, Dec. 8, 1 case (from S. S. *Atrato*).
Peru: Callao, Nov. 20-26, 1 death.
Russia: Moscow, 24-30, 4 cases, 6 deaths; Odessa, 4 cases.
Spain: Cadiz, Nov. 1-30, 8 deaths; Madrid, Nov. 1-30, 1 death; Valencia, Dec. 2-8, 31 cases, 2 deaths.
Turkey in Asia: Bagdad, Nov. 3-16, 89 cases, 26 deaths.

CHOLERA.

India: Calcutta, Nov. 17-23, 108 deaths; Rangoon, Nov. 11-23, 16 cases.
Japan: Oshima Island, Dec. 3, 5 cases; Ibaraki, Nov. 27, 1 case; Kanagawa, Dec. 1-2, 4 cases; Kobe, Nov. 18-23, 7 cases, 2 deaths; Nagasaki, Nov. 18-24, 1 case, 1 death; Tokushima, Nov. 27, 27 cases, 23 deaths; Yokohama, Oct. 27-Nov. 2, 5 cases, 4 deaths.
Russia: General, Nov. 7-12, 403 cases, 225 deaths; Kief, Nov. 19-23, 14 cases, 3 deaths.

YELLOW FEVER.

Brazil: Para, Dec. 1-7, 16 cases, 10 deaths; Rio de Janeiro, Nov. 18-24, 2 cases, 1 death.
Cuba: Habana Province—Guinea, Dec. 23-27, 1 case, 1 death (from Palos); Santa Clara Province—Cienfuegos, Dec. 29-31, 2 cases, 1 death (case Dec. 31 from Palmira); Palmira, Dec. 31, 1 case, 1 death.
Ecuador: Guayaquil, Dec. 1-7, 1 death.
West Indies: Bridgetown, Dec. 4-14, 1 case, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Dec. 26-27, 1 case, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Bahia, Nov. 2-30, 18 cases, 18 deaths; Rio de Janeiro, Nov. 18-24, 8 cases, 2 deaths.
India: General, Nov. 9-16, 8,451 cases, 6, 308 deaths; Calcutta, Nov. 17-23, 22 deaths.
Japan: Osaka, Nov. 17-23, 51 cases, 37 deaths.
Peru: Chosica, Nov. 21-27, 1 case; Lima, 6 cases, 5 deaths; Paita, 3 cases, 1 death; Piura, 1 case; Trujillo, 8 cases, 7 deaths.

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Book Notices

THE BRITISH PHARMACEUTICAL CODEX, an Imperial Dispensatory for the Use of Medical Practitioners and Pharmacists. Published by Authority of the Council of the Pharmaceutical Society of Great Britain, at 72 Great Russell Street, London, W. C., 1907.

The British Pharmaceutical Codex is to Great Britain and its colonies what the American dispensatories are to the United States. It differs from the American dispensatories in that, while these are published by individual interests, the British Pharmaceutical Codex is published by the authority of the Council of the Pharmaceutical Society of Great Britain. While, in American dispensatories, much space is given to the actions and uses of drugs by quoting, often at random, from medical publications, the preface to the codex states that these are not mere excerpts from medical literature, "but original and concise descriptions of physiologic action which should assist medical practitioners to formulate a rational therapy without encouraging counter-prescribing." The latter part of this quotation is interesting in that it emphasizes that in Great Britain the relation of physicians to pharmacists is under discussion as it is in this country. As in this country, so the multiplication of names for more or less well-known drugs is being felt in England and is given particular attention. Thus, the preface states: "Special attention has been devoted to the nomenclature of substances of definite composition which are known under a variety of names, and it has been considered desirable to describe such substances under brief, more or less descriptive, names which have, in some instances, been especially devised for the purpose." As an illustration of this, the substance which in the United States Pharmacopeia is called "hexamethylenamina" is described in the codex under the coined name "formamina" and a note appended which states: "Formamin is also known under the following trade names: aminoform, ammonioformaldehyd, ammonaldehyd, cystamin, cystogen, formin, metramin, urisol, uritone, urotropin and vesalvin." Being the first undertaking of this kind by the British Pharmaceutical Association, the codex is not free from errors, as is indicated by the list of "corrigenda" which accompanies the volume; this point has already been taken advantage of by proprietary interests who fear that this work will discourage the prescribing of well-known preparations under coined names and is being used to discredit the codex. The work should prove of great value to physicians of the British Empire.

MOSQUITO LIFE. By Evelyn G. Mitchell, A.B., M.S. Cloth. Pp. 281. Price, $2.25. New York: G. P. Putnam's Sons, 1907.

This work is both popular and scientific. It furnishes the general reader an intelligible account of the structure and an interesting description of the habits of the mosquito with some notes on the commoner species, especially those which are concerned in the transmission of disease. Two chapters are devoted to malaria, yellow fever and other diseases which are carried by mosquitoes and one to the methods of destruction of the insects. The book grows out of the work of Dr. J. W. Dupree, whose assistant the author was and whose notes she has used. Unfortunately, Dr. Dupree died before he could give the results of his researches to the world. The author pays a fitting tribute to his memory. The book closes with a set of keys by which the identity of particular species can be determined from the adult forms or from the ova or larvæ. It bids fair to be an exceptionally useful work.

POINTS IN SURGICAL ANATOMY OF THE TEMPORAL BONE from Birth to Adult Life. By Arthur H. Cheatle, F.R.C.S., Aural Surgeon to King's College Hospital and to King Edward VII's Hospital for Officers. Cloth. Pp. 129. Price, $1.25. London: J. & A. Churchill, 1907.

This book is a reprint of the Hunterian lectures delivered at the Royal College of Surgeons in 1906. The first lecture considers the temporal bone at birth, and takes up in detail the various divisions of the bone, including the surgical anatomy of the labyrinth. The second lecture discusses the superficial changes in the bone during growth; the relation of the lateral sinus to the surface; the consistence of the outer antral wall and mastoid; variations in the antrum, and variations in the middle ear proper. Lecture Three deals with the surgery of the mastoid region, including the anatomic relations of the parts. The illustrations are excellent.

SYPHILIS IN THE ARMY. By Major H. C. French, Author of "Action of Drugs in Syphilis." Cloth. Pp. 126. Price, $1.50. London: John Bale, Sons & Danielsson, Ltd., 1907.

This work is an attempt to show by statistics that the preventive measures adopted in the British army, especially in India, have been effective in lessening the amount of syphilis. The author gives a general survey of the conditions in military life which tend to increase the prevalence of venereal disease. The methods of dealing with syphilis by the medical men of the army are given with suggestions as to how these methods can be made more effective for the prevention of the disease. The latter half of the book is taken up with a series of statistical tables which go to prove in the author's opinion the good effects of regulation of prostitution. Whether one agrees with this conclusion or not, the tables ought to be of value, as they represent a considerable amount of research.

ANATOMY OF THE BRAIN AND SPINAL CORD, with Special Reference to Mechanism and Function. By Harris E. Santee, M.D., Ph.D., Professor of Anatomy in the College of Physicians and Surgeons, Medical Department, University of Illinois. Fourth Edition, Revised and Enlarged. 128 Illustrations. Cloth. Pp. 454. Price, $4.00. Philadelphia: P. Blakiston's Son & Co., 1907.

Prepared originally as a text-book for medical students, this work is now in every way worthy of a place in the library of the practitioner for general reference and study. The chapter on the embryology of the brain and cord is clearly written and well illustrated. An extensive chapter on "Tracing of Impulses" takes up the various motor and sensory paths in the nervous system. Aside from this, the physiology of the subject is considered with the anatomy. The illustrations comprise diagrams, semidiagramatic drawings, and photographs of cross-sections of cord, medulla, etc. Some are from other books, but many are original.

METABOLISM AND PRACTICAL MEDICINE. By Carl von Noorden, Professor of the First University Medical Clinic, Vienna. Anglo-American Issue, under the Editorship of I. Walker Hall, Professor of Pathology, University College, Bristol. Volume III. Cloth. Pp. 1320. Price, $6.00. Chicago: W. T. Keener & Co., 1907.

The third volume of von Noorden's work continues the subject of pathology. Although it appears only shortly after the German edition, the opportunity has been taken to supplement the German edition by introducing into the text an account of the most recent investigations. An appendix giving the analysis and calorific value of the commoner foods has been added and would have proved a feature of great value but, unfortunately, the typographical process has so juggled the figures that only an expert can bring any order out of them, and as the tables stand they are in many places absolutely worthless to the average reader.

PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia. Eighth Edition, Revised and Illustrated. Pp. 1317. Cloth. Price, $5.50. Philadelphia: W. B. Saunders Co., 1907.

This well-known text-book has been subjected to a thorough revision with elaboration of some of the most useful features. The work has been well done and the book may be expected to continue to hold the favor of the medical public in the future as it has in the past.

Marriages

WILLIAM MCLEAN PITTS, M.D., to Miss Eleanor Kervin, both of Selma, Ala., December 19.

LOUIS F. KORNMANN, M.D., to Miss Seba Wight, both of Clarksburg, W. Va., December 24.

THOMAS C. THOMPSON, M.D., to Mrs. Lulu C. Walker, both of Jacksonville, Fla., December 23.

JOHN L. SCALES, M.D., Alden Bridge, La., to Miss Ethel Webb of Nashville, Tenn., December 4.

JAMES VOORHEES FREEMAN, M.D., Jacksonville, Fla., to Miss Leslie Butts of Brunswick, Ga., November 27.

STANLEY G. ZINKE, M.D., U. S. Army, to Miss Beulah Few Kenney of Leavenworth, Kan., December 19.

JAMES CLARENCE HARPER, M.D., Greenwood, S. C., to Miss Nannie Andrew McCaughrin of Newberry, S. C., January 1.

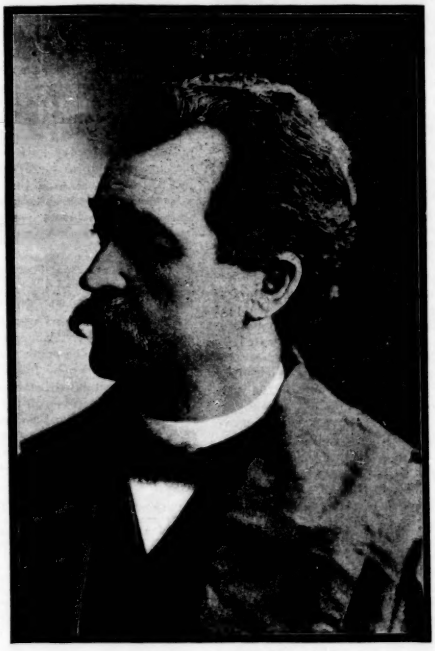
THE DEATH OF NICHOLAS SENN

Nicholas Senn, "master surgeon," pathologist, teacher, patriot and loyal friend, died January 2, at his home in Chicago, from dilatation of the heart, aged 63 years, 2 months and 2 days.

He was born in Buchs, Canton of St. Gall, Switzerland, Oct. 31, 1844, came with his parents to the United States in 1852 and settled at Ashford, Wis. He was graduated from the Fond du Lac High School in 1864. After teaching school he began the study of medicine with Dr. E. Munk of Fond du Lac. In 1865 he entered Chicago Medical College, and graduated with first honors in 1868. His thesis was on "The Modus Operandi of Digitalis Purpurea." In 1869 he was married to Miss Aurelia S. Muehlhauser, of La Crosse, and commenced practice in Ashford. Five years later he moved to Milwaukee, and there became a member of the attending staff of the Milwaukee Hospital. In 1877 he returned to Europe, and, after studying at the University of Munich, received a degree in medicine in 1878. He then practiced in Milwaukee until 1893, when he took up his permanent residence in Chicago.

Dr. Senn's first experience on a hospital staff was as an interne in Cook County Hospital, Chicago, where he served for eighteen months. He was afterward a member of the staff of the Milwaukee Hospital, and later surgeon-in-chief to the St. Joseph's Hospital and Presbyterian Hospital, Chicago, and surgeon to the Passavant and Policlinic hospitals. Of late years his chief work has been done in St. Joseph's Hospital.

Dr. Senn was a member of many scientific societies. In 1896 he delivered the oration on surgery, and in 1897 was president of the American Medical Association. He founded the Association of Military Surgeons of the United States in 1891 and was its president for two years. He was also the founder of the Association of Military Surgeons of the State of Illinois in 1893, and has been its president during the entire existence of the organization. He has been a delegate to the International Medical Congresses at Berlin, Moscow, Madrid and Lisbon. He was a member of the Royal Medical Society of Buda-Pest, Philadelphia College of Physicians, Norwegian Medical Society, Swedish Medical Society, American Surgical Society, and Japanese Red Cross, a life member of the American National Red Cross, and an honorary member of the D. Hayes Agnew Surgical Society, Philadelphia Academy of Surgery, National Association of Railway Surgeons, Academy of Medicine of Mexico, Manila Medical Society, Glasgow Academy of Medicine, and Imperial-Royal Medical Society of Vienna.



NICHOLAS SENN, 1844-1908.

His career as a medical teacher began in 1884, when he was elected professor of principles and practice of surgery in the College of Physicians and Surgeons, Chicago. In 1888 he was made professor of principles of surgery and surgical pathology in Rush Medical College, and in 1891 professor of practice of surgery and clinical surgery in the same institution. Later he was appointed professorial lecturer and then professor of military surgery in the University of Chicago. He was also professor of surgery in the Chicago Policlinic. Dr. Senn was a thorough teacher and held the attention of his classes closely by the interest with which he invested the topic on which he was lecturing. His information was universal and perfectly classified, he was never at a loss for a word, and could always supply the names of authorities, dates and particulars, and this off-hand, without reference to notes. His style of delivery was dramatic and his audiences never tired. The students never stayed away from his clinics and the amphitheater was always filled.

As a surgeon Dr. Senn was probably the best known and most universally esteemed in the United States. His fame was not local, but extended far beyond the confines of America to Europe, Africa, South America and the far East. He was a skilful and always conservative operator and a most eloquent clinical lecturer. In plastic surgery he excelled. To detail the surgical procedures he has devised based on careful experiment and observation, and to describe his methods of operating would require far more space than could be permitted in this notice. His research work on military surgery, and especially first aid on the battle field and the conservative treatment of gunshot wounds, has attracted the attention and compelled the admiration of the surgeons of the world.

Dr. Senn was from his early life interested in military matters, and especially in military surgery. In 1888 he was made surgeon general of Wisconsin and retained this position until he left the State. In 1892 Governor Altgeld commissioned him surgeon general of Illinois, and this position he held through various administrations until his death. He took deep interest in the increase of the efficiency of the National Guard, and through his initiative was instituted the systematic physical examination of recruits, nearly approximating that required by the U. S. Army, the mental and physical examination of candidate medical officers, and the promotional examination of medical officers, also closely patterned after that required by the regular establishment. On the outbreak of the Spanish-American War he at once repaired to the state mobilization camp at Springfield and assumed charge. The records of physical examination of recruits made there under his direction were most complete and valuable.

He was commissioned lieutenant colonel and chief surgeon, U. S. V., May 13, 1898, and was assigned to duty with the Sixth Army Corps. He was on duty at Chickamauga Park, Georgia, and in temporary charge of Leiter General Hospital from May 28 to June 25. On June 24 he was ordered to report to the Adjutant General of the Army for special duty pertaining to the expedition of Santiago, and was in Washington on that duty until June 30, when he proceeded to Newport News, Va., and accompanied the expedition under command of Brig.-Gen. Guy V. Henry, U. S. V., to Santiago, Cuba, and was assigned to duty as chief surgeon of the operating staff with troops in the field. On July 7 he arrived in Siboney and was on duty with the Army of the Invasion near Santiago until July 14, when, in compliance with orders, he reported for duty on board the U. S. Hospital Ship *Relief*. On August 20 he was relieved from duty in Cuba and proceeded to Montauk Point, Long Island, N. Y., and eleven days later was placed in charge of the surgical work at that place. He resigned September 6 and was honorably discharged September 17. In general orders from the adjutant general's office, dated Feb. 13, 1900, Lieutenant-Colonel Senn was commended for his surgical work during the Cuban campaign and for making a scientific study into the causes of typhoid fever among the troops.

V 50
1908

Dr. Senn was a prolific contributor to the medical literature. Prominent among his writings, which number more than 300 titles, are his text-books on "Experimental Surgery," "Intestinal Surgery," "Surgical Bacteriology," "Principles of Surgery," "Tuberculosis of Bones and Joints," "Genito-urinary Tuberculosis," "Pathology and Surgical Treatment of Tumors," and "Practical Surgery." He has also written a number of books of travel, giving observations of the diseases, medical men and hospitals of various countries of the world. During his recent vacation tours he has contributed frequent letters to THE JOURNAL. In this issue on page 116 appears Article X of the South American series, which deals with La Paz, Bolivia.

On Nov. 11, 1905, a testimonial banquet was given Dr. Senn, at the Auditorium Hotel, which was attended by more than 700, 20 states being represented. At this banquet Dr. Senn was presented with a gold medallion inscribed "To Nicholas Senn, the Master Surgeon from his Fellows, November 11, 1905." On the same occasion he was presented with a silver loving-cup on behalf of his former pupils.

Dr. Senn's benefactions were many. He endowed two rooms at St. Joseph's Hospital, Chicago, presented to Rush Medical College the Senn Clinical Building, and to the medical department of the Newberry Library (now the Crerar Library) a valuable collection of medical books and monographs, including the entire library of the late Dr. William Baum, professor of surgery in the University of Gottingen, and that of Dubois-Reymond.

In the opinion of his attending physician, Dr. Senn gave a plain history of chronic interstitial myocarditis, running back beyond a period of two years. He did not recognize the plain manifestation of the lesion, but imagined himself even at this time to be a prodigy of physical and mental endurance. The acute manifestations of his illness were precipitated by his tour around South America. Immediately before his arrival on that continent he was disturbed by an acute intestinal derangement, and soon after his arrival he imprudently ascended a great mountain to an altitude of 16,000 feet. The phenomena of acute dilatation of the heart immediately appeared and continued until his death. On his arrival at home he showed an enormously dilated heart with gallop-rhythm, marked pulmonary stasis with edema, extreme dyspnea and great anasarca. The circulatory disturbance was not durably benefited by medicinal treatment. Periods of temporary improvement were interrupted by periods of aggravation. As part of the general vascular stasis connected with the dilatation, a rather acute ascites made its appearance, suggesting the pre-existence of some impediment to the portal circulation. About two weeks before death an acute nephritis was engrafted on the course of a chronic passive congestion of the kidneys, and this was the feature of his illness that precipitated the fatal termination.

The funeral services were held at his late residence, Sunday, January 5. The Rev. Frank W. Gunsaulus officiated. The Second Illinois Infantry acted as escort. The active pallbearers were: Drs. Gustav Kaumheimer and Louis G. Nolte, Milwaukee; Drs. Arthur McNeal, Berwyn, and S. M. Wylie, Paxton, Ill., and Drs. A. M. Butzow, A. Belcham Keyes, S. C. Stanton and Homer M. Thomas, Chicago. A large list of honorary pallbearers was selected, many of whom were present, representing the various medical, military and other organizations, throughout the country, with which Dr. Senn was affiliated.

Nicholas Senn was truly great; master of his profession; a patriot, always ready to sacrifice his personal interests and comfort for the service of his adopted country; intensely loyal in his friendships; generous to a fault; simple-minded; too honest to harbor suspicions; a man of singularly clean speech, never profane nor vulgar. His greatest glory was in his extraordinary capacity for work, which he held as duty, and that work entirely for the betterment of his fellow men. Of him it may with truth be said that the world is better for his having lived.

Robert Charles Reuling, M.D. Baltimore Medical College, 1893; a member of the Medical and Chirurgical Faculty of Maryland and Baltimore City County Medical Society; assistant resident physician of Johns Hopkins University, and lecturer on neurology for several years at Baltimore Medical College and the University of Maryland; a member of the staff of the *Maryland Medical Journal*; and recently appointed resident physician at Springfield Hospital for the Insane, Sykesville; died in that institution, December 28, aged 35.

William R. Hamilton, M.D. New York University Medical College, New York City, 1854; formerly mayor of Peoria, Ill.; surgeon in the volunteer service during the Civil War; surgeon of the Pennsylvania Railway Company at Pittsburg from 1863; a member of the medical societies of the State of Pennsylvania and County of Allegheny; died December 29, at his home in Pittsburg, after an illness of a few hours, from senile debility, aged 79.

Robert W. Taylor, M.D. College of Physicians and Surgeons in the City of New York, 1868; a member of the American Medical Association; professor of genitourinary diseases in his alma mater; consulting surgeon to the genitourinary division, Bellevue Hospital, and consulting surgeon to the venereal division, New York Charity Hospital; a member of the Association of Genitourinary Surgeons and American Dermatological Association, was found dead at his home in New York City, January 5, aged 65.

John Y. Hoffman, M.D. Jefferson Medical College, Philadelphia, 1880; of Reading, Pa.; in 1884 prison solicitor; in 1897 coroner of Berks County, Pa.; thereafter city treasurer of Reading; a member of the Medical Society of the State of Pennsylvania and Berks County Medical Society, was shot and instantly killed December 26, at his home, by his intoxicated son-in-law, whom he was endeavoring to quiet, aged 49.

Benjamin F. Eager, M.D. Louisville (Ky.) Medical College, 1887; a member of the American Medical Association; formerly assistant superintendent of the Western Kentucky Asylum for the Insane, Hopkinsville; and later in charge of Beechhurst Sanitarium, Louisville; a widely known authority on nervous diseases; died at his home in Louisville, December 28, after an illness of several months, aged 59.

Nathaniel Garland Kierle, Jr., M.D. College of Physicians and Surgeons, Baltimore, 1899; a member of the staff of the City, Bayview and Hebrew hospitals, Baltimore; for some time associate director of the Pasteur Institute of the College of Physicians and Surgeons; one of the most promising young practitioners of Baltimore, died in that city from pneumonia, January 5, aged 33.

William C. Egelhoff, M.D. Northwestern University Medical School, Chicago, 1902; of Chicago; a member of the American Roentgen Ray Association; a member of the hospital corps during the Spanish-American War; died at Augustana Hospital, Chicago, from septicemia, said to have been due to exposure to the *x*-rays, December 27, after an illness of three years, aged 35.

Joseph Green Pierce, M.D. Eclectic Medical Institute, Cincinnati, 1883; a member of the Medical Society of the State of California and Sonoma County Medical Society; formerly coroner and public administrator of Sonoma County; died at his home in Sebastopol, December 21, about three weeks after a surgical operation, aged 73.

John L. Banks, M.D. University of Virginia, Department of Medicine, Charlottesville, 1861; a member of the medical societies of Virginia and Cumberland County; a Confederate veteran, and for nearly half a century a resident of Cumberland County; died at his home near Oak Forest, December 23, from paralysis, aged 73.

Richard M. Higgins, M.D. Jefferson Medical College, Philadelphia, 1855; a member of the American Medical Association; who for about 25 years had devoted his time to the preparation of vaccine virus; a native of St. Louis County, Mo.; died at his home in Glendale, December 30, after an illness of a few weeks, aged 65.

William McLean Pitts, M.D. University of Louisville (Ky.) Medical Department, 1894; a member of the American Medical Association, and a prominent young practitioner of Selma, Ala.; died at the home of his father in that city, from typhoid fever, December 25, aged 34.

Charles Francis Conlin, M.D. University of Georgetown, Medical Department, Washington, D. C., 1904; of Worcester, Mass.; formerly an interne in a Washington hospital; died at St. Vincent's Hospital, Worcester, December 24, from pneumonia, after a short illness.

Christian C. J. Wachendorf, M.D. Pulte Medical College, Cincinnati, 1891; is said to have shot and killed himself at Sioux Falls, S. D., December 28, a few minutes after his arrest for sending a threatening letter through the mails, aged 43.

J. C. Thorn, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1902; formerly of Cowpens, S. C., is said to have committed suicide in his home at Gaston Shoals, S. C., December 25, by cutting his throat with a razor, aged 40.

Blexton Harris, M.D. Rush Medical College, Chicago, 1859; surgeon in charge of the Eighteenth Army Corps Base Hospital during the Civil War; died at his home in Aurora, Ill., December 25, after a short illness, aged 83.

Edward H. Chamberlain, M.D. Eclectic Medical Institute, Cincinnati, 1884; secretary of the Homeopathic Board of Medical Examiners of South Carolina; died suddenly at his home in Cheraw, S. C., November 9, aged 49.

Lyman J. Rhoades, M.D. Rush Medical College, Chicago, 1891; of Fond du Lac, Wis.; a member of the Wisconsin State and Fond du Lac County medical societies; died in White Pigeon, Mich., December 25, aged 47.

Daniel Edwin Bartlett, M.D. Medical School of Harvard University, Boston, 1904; formerly of Cambridge, Mass., was found dead in a hotel in Seattle, presumably from an overdose of a drug, December 19, aged 32.

John Person, M.D. Rush Medical College, Chicago, 1875; coroner of Lake County, Minn., for two years; died at his home in Two Harbors, December 27, from cerebral hemorrhage, after an illness of six days, aged 63.

Leamington B. Stewart, M.D. Toledo (Ohio) Medical College, 1884; of Sardis, W. Va., was accidentally drowned by walking off a ferry float at Stony Town, Ohio, opposite Sardis, December 25, aged 55.

Henry Gray, M.D. Dartmouth Medical School, Hanover, N. H., 1848; for nearly 40 years a practitioner of Bloomfield, Conn.; died at the home of his daughter at Jamestown, N. Y., December 13, aged 83.

John M. Watson, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1874; died at his home in Dearborn, Mo., October 30, from heart disease, after an illness of four days, aged 74.

William J. Cottrell, M.D. Howard University, Medical Department, Washington, D. C., 1900; died at his home in Denver, December 26, from pneumonia, after a short illness, aged 36.

Ahira R. White, M.D. University of Buffalo (N. Y.) Medical Department, 1866; died at his home in Indianapolis, December 24, from cerebral hemorrhage, after an illness of three months, aged 65.

John S. Park, M.D. Pennsylvania Medical College, Gettysburg, 1849; one of the oldest practitioners of Tennessee; died at his home in Franklin, December 23, from senile debility, aged 88.

Charles E. Wilder, M.D. Leonard School of Medicine, Medical Department, Shaw University, Raleigh, N. C., 1901; died at his home in Richmond, Va., December 25, after an illness of six weeks.

Peter Shaw, M.D. Eclectic Medical College of Philadelphia, 1886; died at his home in Mount Bethel, Pa., December 24, from paralysis, after an illness of a year and a half, aged 58.

Reid C. Matthews, M.D. Jefferson Medical College, Philadelphia, 1881; died at his home in Columbus, Ohio, December 24, from typhoid fever, after an illness of seven weeks, aged 49.

James J. Wilson, M.D. Missouri Medical College, St. Louis, 1886; physician of Littleton and Arapahoe County, Colo.; died at his home in Littleton, December 21, aged 45.

Benjamin F. Wheat, M.D. University Medical College of Kansas City, Mo., 1865; died at his home in Hale, Mo., December 14, from cerebral hemorrhage, aged 71.

Jett M. H. Ruff, M.D. Medical College of the State of South Carolina, Charleston, 1857; died suddenly at his home in Reuben, S. C., December 17, aged 72.

Samuel Mundy (years of practice, Ill., 1877); for fifty-seven years a practitioner of medicine; died at his home in Mt. Erie, Ill., December 12, aged 81.

Holland M. Thompson (years of practice, Kan., 1901); of Herndon, Kan., died at Atwood, Kan., December 19, as the result of morphin poisoning.

James Crozier (Illinois Army Board, 1861); died at the Soldiers' Home, Quincy, Ill., July 26, from cerebral hemorrhage, aged 74.

Death Abroad.

Albert J. Hoffa, M.D., professor of orthopedic surgery at Berlin, died January 5, aged 49, according to a cablegram to Dr. John Ridlon, Chicago. He was a pioneer in his specialty, particularly in the operative treatment of congenital luxation of the hip joint, in devising innumerable orthopedic appliances and in popularizing systematic massage. His "Manual of Orthopedic Surgery" has passed through many editions and been translated into all the current languages. He founded the *Zeitschrift für orthopädische Chirurgie* in 1892, and has been a prolific writer, preaching by precept and by example that the physician should learn to make his own orthopedic appliances for his individual cases. Until called to Berlin, about five years ago, Hoffa was professor of the same specialty at Würzburg, where he opened a private orthopedic institute in 1886.

Medical Education and State Boards of Registration

NEW MEXICO Board of Health and Medical Examiners, Santa Fe, January 13. Secretary, Dr. J. A. Massie, Santa Fe.

ARKANSAS Regular Board of Medical Examiners, State Capitol Building, Little Rock, January 14. Secretary, Dr. F. T. Murphy, Brinkley.

ARKANSAS Eclectic Board of Medical Examiners, Little Rock, January 14. Secretary, Dr. A. J. Widener, Little Rock.

ARKANSAS Homeopathic Board of Medical Examiners, Little Rock, January 14. Secretary, Dr. V. H. Hallman, Hot Springs.

NEW HAMPSHIRE State Board of Medical Examiners, Concord, January 14-15. Regent, Mr. H. C. Morrison, Concord.

VERMONT State Board of Medical Registration, State House, Montpelier, January 14-16. Secretary, Dr. W. Scott Nay, Underhill.

WISCONSIN Board of Medical Examiners, Plankinton Hotel, Milwaukee, January 14-16. Secretary, Dr. J. V. Stevens, Jefferson.

NEVADA State Board of Medical Examiners, Carson City, February 3. Secretary, Dr. S. L. Lee, Carson City.

NEW YORK State Board of Medical Examiners, Albany, February 4-7. Chief of Examinations Division, Charles F. Wheelock, Albany.

NEBRASKA State Board of Health, State Capitol Building, Lincoln, February 5-6. Secretary, Dr. E. J. C. Sward, Oakland.

KANSAS State Board of Medical Registration and Examination, February 11. Secretary, Dr. D. P. Cook, Clay Center.

WYOMING State Board of Medical Examiners, Laramie, February 12-14. Secretary, Dr. S. B. Miller, Laramie.

Idaho October Report.—Dr. W. F. Howard, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, Oct. 1-2, 1907. The subjects examined in numbered 11; total questions, 110; percentage required, 75. Twenty-four candidates were examined, 22 passed and 2 failed. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
Gross Med. Coll.	(1891)	75.8
Bennett Coll. of Ecl. Med. and Surg.	(1907)	84.1
College of P. and S., Chicago	(1904) 84.4; (1907)	82.6
American Med. Miss. Coll., Chicago	(1903)	77.6
Rush Med. Coll.	(1901)	81.6
Northwestern Univ. Med. School	(1907) 79.6,	81.8
University of Iowa	(1907)	88.3
Drake University	(1901)	75.7
Hamline University	(1902)	80.4
Ensworth Central Med. Coll.	(1907)	78
University Med. Coll., Kansas City	(1898)	75
Barnes Med. Coll.	(1907)	75
St. Louis College of P. and S.	(1896)	76.7
St. Louis University	(1907)	78
Kansas City Hahnemann Med. Coll.	(1904)	75.2
Albany Med. Coll.	(1881)	77.5
University of Virginia	(1907) 82.9,	84.1
Jefferson Med. Coll.	(1907)	84.6
Western University, London, Ontario	(1903)	78.1
FAILED.		
Washington University	(1904)	66.3
University of Louisville	(1883)	55.4

Massachusetts November Report.—Dr. E. B. Harvey, secretary of the Board of Registration in Medicine, reports the written examination held at Boston, Nov. 12-14, 1907. The subjects examined in numbered 13; total questions, 70; percentage required, 75. Seventy-one candidates were examined, 42 passed and 29 failed, including 11 non-graduates. One candidate did not complete the examination. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
Georgetown University	(1907)	80.8
Northwestern Univ. Med. School	(1902)	75.5
Baltimore Med. Coll., (1905) 83.2; (1906) 75; (1907) 75,	75.7,	78.2
Harvard University, (1905) 75.7; (1906) 84.6; (1907) 75.5, 76, 79.1, 78.5, 82.		
Boston University	(1906) 75.5, 80; (1907) 78.7,	81.1
Tufts Coll. Med. School, (1906) 76; (1907) 75, 77, 77.7, 77.8, 77.8, 78.3, 78.6, 79.2, 79.5.		
College of P. and S., New York	(1901) 82.1; (1906)	80.1
Bellevue Hosp. Med. Coll.	(1897)	76.7
Woman's Med. Coll. of Pennsylvania	(1904) 75; (1907)	81.1
University of Pennsylvania	(1906)	75.5
Jefferson Med. Coll.	(1907)	75.6
Hahnemann Med. Coll., Philadelphia	(1905)	78.1
University of Vermont	(1906) 75, 77; (1907) 76.5,	76.7
McGill University, Quebec	(1905)	75.1
Royal Institute of Florence, Italy	(1903)	75.3
FAILED.		
College of P. and S., Chicago	(1905)	73.7
Baltimore University	(1907)	67.7
Maryland Med. Coll.	(1907)	71
Faltimore Med. Coll.	(1905) 70.6; (1907)	68.1
Tufts Coll. Med. School	(1907)	73.1
57.6, 60.3, 70.7.		
College of P. and S., Boston, (1905) 67.2; (1906) 50.2;		(1907)
Boston University	(1907)	72.4
Woman's Med. Coll. of Pennsylvania	(1902)	68.8
Laval University, Canada, (1904) 52.5; (1905) 65.4; (1906) 59.5; (1907) 58.		
Alexanders University, Finland	(1902)	61.6

V 50
1908

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Sweaters of Labor.

It is satisfactory to receive occasionally competent though unwilling testimony that the attempts to exploit the medical profession by the so-called "friendly societies" are not altogether a success.

Such testimony is afforded by the late chief organizer of the "Brotherhood of Owls" in Michigan, Wisconsin, Minnesota and the Dakotas, in an interview reported in the *Seattle Times*, November 27. After telling how he had to give up his work in those states on account of inability to obtain the services of physicians for the order, he says: "As a result, the Eagles and the Owls are crumbling to pieces in that territory. The Eagles have raised their dues from 75 cents to $1 a month, but even at that they can not get along because of the increased cost of furnishing medical care to members. The lodge of Red Men at St. Cloud is 1,200 smaller than it was two years ago, owing to the same reason."

He also says that physicians in Seattle and elsewhere in the Pacific states furnish free medical attendance to the families of the members of these orders who pay 50 cents a quarter for the privilege. "Under this arrangement the physician who does the work for the Ballard Nest of Owls, for instance, only gets approximately $50 a month for doing work for which he would otherwise get $450."

This naive confession that the organization represented by this witness sweats the physician down to only one-ninth of what he ought to receive is worth noting. Authorities on natural history tell us that the owl is a bird of unlimited appetite and that it will devour more than its own weight of its fellow creatures every few days. It certainly appears, therefore, that this secret "benefit" organization has chosen a very appropriate name.

An Optometry Bill to be Introduced in Massachusetts.

Information received from Massachusetts indicates that preparations are being made to introduce into the state legislature at the coming session a bill entitled, "An Act to Regulate the Practice of Optometry." Examination of a copy of this bill indicates that it is similar to one introduced into the legislature in Illinois at the last two sessions and which was defeated, thanks to the united opposition to it presented by the members of the medical profession and of the State Board of Health.

The Massachusetts bill seeks to establish a board of registration in "optometry," which is defined to be "the employment of any method or means other than the use of drugs, medicine or surgery for the measurement of powers of vision and the adaptation of lenses for the aid thereof." The bill further provides that the provisions of the law shall not apply to physicians or surgeons lawfully entitled to practice medicine in Massachusetts, nor to persons who sell spectacles or eyeglasses on prescription from any physicians or duly qualified optometist, nor to dealers in spectacles or eye-glasses who neither practice nor profess to practice "optometry." As the wording of the law exempts from its operation practically every one concerned, it is difficult to see the object of adopting it.

So far as shown by any recognized authority in the English language, there is no such thing as "optometry." It certainly is not recognized in any scientific circles. The argument advanced by the supporters of these bills, which have been appearing from time to time in our various state legislatures, that their design is to protect the public from ignorant and untrained men, is offset by the exemptions made in the bill. It is reported that efforts are being made to secure the endorsement of individual members of the Massachusetts Medical Society. It is hoped that vigorous opposition to the bill will be manifested by the physicians of Massachusetts, as the proposed law is without merit.

Professional Leadership in the Abatement of Public Nuisances.

In a recent number of the *Cincinnati Lancet-Clinic* appears the presidential address of Dr. H. H. Grant of Louisville, delivered before the Mississippi Valley Medical Association in October. Dr. Grant took as his subject, "The Relations Between the Medical Profession and the People." He said that the duty of the physician is not limited to prescribing for the sick or ministering to the suffering, but that the doctor, as a careful student and investigator, knows better than anyone else the amount of suffering and wretchedness in existence, how much of it is preventable and what are the fundamental causes of distress. He also knows that relief lies not only in the prevention of contagion and the use of remedies, but in improved hygienic surroundings in the schools, homes and shops. Under this heading Dr. Grant enumerates the proper ventilation of tenement houses, the regulation of working hours, especially of women and children, proper supervision of food and water supply, clean streets, protection of employés from injury by machinery and the reduction of quackery and imposture. In a word, the lessening of human misery lies in the abatement, as far as possible, of all public nuisances which ignorance, superstition, cupidity or shameful indifference allow to militate against health and happiness. In this work he feels that, no matter who carries on the campaign, the medical profession should be the unquestioned leader.

Kenosha Physicians Decide on Insurance Fees.

The physicians of Kenosha County, Wisconsin, have adopted the following resolutions:

WHEREAS, Nearly all of the "old line" life insurance companies have agreed with the medical profession that a fee of five dollars is a reasonable and just compensation for the work, care and skill required to make an examination of an applicant for insurance, where a chemical analysis of urine is required; and

WHEREAS, A fraternal insurance organization demands the same amount of work, care and skill to make an examination of its applicant and the very life and prosperity of the society depends on the carefulness with which such examinations are made; and

WHEREAS, We consider it an unwarranted and unjust discrimination to render the same services to one person for a much smaller fee than that demanded from another person, unless it be for the sake of charity:

Therefore, We, the undersigned physicians, of Kenosha County, Wisconsin, hereby agree and pledge ourselves that after this date we will not make, or enter into, any new contract for less than a fee of $5.00 for each examination for life insurance with chemical analysis of the urine, and an additional fee of $3.00 where a microscopic examination of the urine is required.

Furthermore, it is our opinion that a plan by which the fees for medical examination would be paid by the society instead of by the applicants would be feasible and of great advantage to the societies.

This agreement goes into effect as soon as it is signed by every reputable practitioner of medicine in Kenosha County.

The above resolutions were signed by every practicing physician in the county and became effective Dec. 5, 1907.

Aid to Widows and Orphans.

At a recent meeting of the Philadelphia County Medical Society, a report was made of the objects and work of the aid association of the county society by Dr. John B. Roberts, who explained that it was auxiliary to the county society and that in the event of the death of a member leaving a widow or children in distress, the case would be looked into, the wife given an annuity for life and the children an annuity for a certain number of years. The cost of membership was shown to be small and to be simply a matter of "two less car rides, two less cigars a week."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month.

THIRD WEEKLY MEETING.

Pneumonia.

Croupous Pneumonia.

Etiology: Influence of age, occupation, habits, previous diseases, climate and season.

Specific microörganisms and causal relations. Found in what other regions of body. Morphology and methods of culture.

Pathologic Anatomy: Changes occurring in (a) engorgement, (b) red hepatization, (c) gray hepatization, (d) resolution. Changes in bronchi and pleura. Changes in other organs of body.

Symptoms: Clinical course of typical lobar pneumonia, ending in recovery. Symptoms of (a) respiratory system with physical signs, (b) circulatory system (c) nervous system.

Catarrhal Pneumonia.

Etiology: Age. Following what disease? Occurrence in old age. Aspiration pneumonia. Occurs under what conditions?

Pathologic Anatomy: Characteristic changes, gross and microscopic, in lung. Wherein do they differ from croupous pneumonia? Difference in distribution of consolidated areas. Organisms found in catarrhal pneumonia.

Symptoms: After an infectious disease what would lead to diagnosis of catarrhal pneumonia? Usual physical signs. Difference in onset and symptoms between catarrhal and croupous pneumonia.

Differentiate physical signs.

Society Proceedings

COMING MEETING.

Med. Society of the State of New York, Albany, Jan. 28.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twentieth Annual Session, held at New Orleans, Dec. 17-19, 1907.

The President, DR. HOWARD A. KELLY, of Baltimore, in the Chair.

The election of officers was noted in THE JOURNAL, January 4, page 50.

Perinephritic Abscess Following Parturition.

DR. J. SHELTON HORSLEY, Richmond, Va., reported three cases that he had operated on. He called attention to the necessity for early diagnosis in order to give the patient the benefit of an early operation, as all statistics on this subject show that the mortality of this disease increases as the operation is delayed. He laid stress on the occurrence of pain in either flank a few weeks after parturition, even in cases that undergo a comparatively aseptic delivery. The bending of the body to the affected side, stiffness of the spine, slight limp in walking, and pain on pressure over the affected flank, are important early symptoms. Later there is muscular spasm and a decided mass can be felt over the region of the kidney. Constipation is always marked, due partly to the patient's dread of muscular effort. The usual constitutional signs of sepsis appear as the disease progresses. All of his cases were on the right side. He attributes this to the fact that the right kidney and perinephritic tissue are lower than the left, and are consequently more likely to be injured by the bearing-down pressure of the pregnant uterus during parturition. This affords a point of least resistance in perinephritic tissues of the right side, and germs which are absorbed by the lymphatics of the uterus may readily gain a foothold here. Treatment should follow the diagnosis at once, and consist in a lumbar incision, as in an operation for nephrotomy and drainage with a tube of large caliber.

Postoperative Complications in Abdominal Surgery.

DR. CHARLES M. ROSSER, Dallas, Texas, said, among other things, that shock, whether due to basic inhibition or vasomotor paresis, can not be overcome by stimulants to an already exhausted nerve center, but position for the purpose of relieving cerebral anemia from hemorrhage, saline solutions to enlarge the volume of the blood current, adrenalin to restore the equilibrium of the blood pressure, and morphin to give balance to the flagging vital forces, are the remedies. A rubber bandage or suit by limiting circulatory necessity may be used either as a precaution or treatment. Postoperative peritonitis results from excessive trauma or infection. Drainage is the best safeguard after asepsis. If required, reopening for drainage is to be done with the least possible trauma and minimum amount of anesthetic. Ileus or other obstruction may be treated by enema of alum solution which reverses peristalsis and gas distension by egg-turpentine emulsion injected high up. Inhalation pneumonia suggests mouth and pharynx antisepsis, and is treated in the usual way. Hypostatic pneumonia is not so common, since physicians do not insist on decubitus as a routine.

DR. RANDOLPH WINSLOW, Baltimore, reported the histories of two cases of appendicitis with peritonitis.

Acute Postoperative Dilatation of the Stomach.

DR. C. JEFF MILLER, New Orleans, said that among the unexpected complications that may arise after surgical operations no condition has furnished a more distressing chapter than acute dilatation of the stomach. This complication is probably as serious as any postoperative complication that may arise. The latest statistics, gathered by Simpson, show that, of 128 cases, 86 died. Kayser's collection of 60 cases, quoted by Bloodgood, yield 71 per cent. of deaths. Conner's exhaustive study of 102 cases shows 74 deaths, or 72.5 per cent. deaths, and 28 recoveries.

The treatment may be summed up in a few words, namely, early recognition, prompt emptying and washing of the stomach, and such posture as may release a mesenteric compression. To these may be added any eliminative measure indicated, if the emunctory organs are inactive. Early diagnosis is essential to successful treatment. Judging from the cases reported in which operation was done with the idea of relieving obstruction, surgery is not encouraging. In spite of the high mortality, however, there is strong evidence to prove that many cases can be saved by prompt treatment. The author reported a case on which he operated successfully.

DISCUSSION.

DR. HENRY T. BYFORD, Chicago, said his experience has been that the longer the anesthesia the less nausea there is, and the slower the patient comes out from under the influence of the anesthetic the less nausea there is. He has found it of advantage to give from one to two ounces of brandy just before giving the anesthetic, in order to diminish the amount of anesthetic necessary, as there is much less lung irritation. He has also noticed the good effect of giving an enema after operation, putting in the enema one-half an ounce of alcohol.

DR. GEORGE BEN JOHNSTON, Richmond, does not agree with Dr. Byford that prolonged anesthesia is wise. The smallest quantity of any anesthetic should be given, and the anesthesia occupy as little time as possible. These things conduce to the welfare of the patient. In regard to complications which arise, the most important thing is the prompt recognition of them. Fatalities from complications occur because the complications are not promptly recognized and, therefore, not promptly treated. A careful study of every postoperative case will enable the experienced clinician to recognize an approaching dilataion of the stomach, and if this condition is quickly recognized and energetically treated a great many of the patients recover, say fully 33 per cent. The stomach should not be washed out in these cases at stated intervals. As soon as the condition is recognized, prompt lavage should be practiced and continued as long as there is any indication of vomiting.

DR. RUFUS B. HALL, Cincinnati, in speaking of abdominal distension, referred to the value of the hypodermic use of eserin in 1/50 or 1/100 grain doses. Within forty minutes after it has been administered the patient will begin to

V 50
1908

pass gas. His rule has been to give patients 1/50 of a grain under the skin, and within forty minutes, if the patient is not relieved by passing great quantities of gas, the dose is repeated. But it is rare that he has to give a second dose. He has used this remedy for about two years in more than thirty cases, and in only one case has it failed to bring on the prompt elimination of the gas.

DR. W. P. CARR, Washington, has had good results from eserin in a number of cases, and where he has had the stomachs of patients washed out directly after operation, and has given them a dose of eserin when they leave the table, there has been very little trouble from distension by gas or in getting the bowels to move afterward. Washing out the stomach after an operation and giving 1/30 of a grain of eserin on the table is very effective as a routine practice, except where the bowel is open and where one does not want to get very much peristalsis. It is only effective when there is something in the bowel. If the bowel is absolutely empty, eserin does not seem to have any effect.

DR. CHARLES H. MAYO, Rochester, Minn., in referring to acute dilatation of the stomach, said there is a great amount of discomfort following operation in these cases, many of the patients dying. They die because on the second, the third or fourth day they show a marked condition of regurgitation. These patients lie in bed and vomit a peculiar greenish material in considerable quantity. Suddenly two or three quarts may be vomited. The lower abdomen is flat, while the upper is distended. The condition runs on possibly for four days, when there may be a profuse diarrhea. The condition can be met successfully in many cases by lavage, washing the stomach and keeping it washed as long as it shows a tendency to refill. Many of these cases after three or four washings within the third day will be entirely relieved; intestinal peristalsis will start up, and gas escapes. Some of the more severe cases can be saved by a gastrojejunostomy done between the fifth and seventh days as a secondary operation.

DR. HERMAN J. BOLDT, New York, does not think the mortality from acute dilatation of the stomach is as high as has been quoted. However, it is a comparatively frequent and undesirable complication after abdominal section work. Whenever there is the slightest evidence of an inflammatory process in the peritoneum, salicylate of eserin does no good, so that one must be careful in selecting his cases. Early mobility of patients will guard against some of these postoperative complications.

DR. J. M. MASON, Birmingham, Ala., mentioned a patient who developed acute dilatation of the stomach the day following an operation, but who was entirely relieved by getting rid of the Fowler position, elevating the foot of the bed, and by resorting to lavage.

DR. HUBERT A. ROYSTER, Raleigh, N. C., reported a case of acute dilatation of the stomach following operation for the fixation of both kidneys. Patient died on the fourth day after efforts to relieve her.

DR. JOHN YOUNG BROWN, St. Louis, said he has had twenty-eight cases of diffuse peritonitis, and since he began the treatment recommended by Bond, in a paper read before the British Medical Association, and which was discussed by Murphy in Cincinnati last year, his mortality has been greatly reduced, whereas prior to that time, when he irrigated, it was high. It is not so much the Fowler position as in getting these patients to move about in bed and preventing the complications that were formerly seen. Of ten cases treated without the Fowler position, the results were as good as in those treated with it. He believes that by following a simple technic at the primary operation, complications which would otherwise arise might be prevented.

DR. I. S. STONE, Washington, thinks that after doing fairly good surgical work the patient's bowels should be allowed to rest. When a surgeon gives purgatives immediately after operations, he believes he defeats the purpose he ought to attempt to accomplish. He has done many operations in the last five years and has had no death from ileus.

DR. EDWARD H. OCHSNER, Chicago, said the sooner surgeons learn to recognize that rest favors repair, and motion favors adhesions, the better it will be for the patients.

Transperitoneal Removal of Tumors of the Bladder.

DR. CHARLES H. MAYO, Rochester Minn., said the large percentage of early recurrences following the removal of bladder tumors, both benign and malignant, indicates delayed operation or imperfect removal. With the increasing interest in cystoscopy, early operating is becoming more common. The ineffective operation is due, in part at least, to imperfect exposure of the operative field. The transperitoneal operation is advised in cases of large tumors, benign or malignant, of the bladder. With the patient in the Trendelenburg posture, the bladder empty, a long median incision is made over the bladder, the peritoneum opened, and the intestines walled off into the upper abdomen by large gauze pads in the operative field. The bladder is drawn up into the wound and opened through the peritoneal covering on its posterior superior aspect. The cavity is now dried with gauze and the incision increased forward or back two or three inches, the tumor excised, and the area involved treated with the Paquelin cautery. In some cases large areas of the bladder, even two-thirds of it, may be resected. The opening is closed by catgut suture protected on its peritoneal side by a linen suture of the Cushing type. The abdominal incision is closed usually without drainage. In the after-care, repeated use of the catheter for a few days, if necessary, being preferred in uncomplicated cases.

Treatment of the Bladder After Suprapubic Cystotomy for Stone.

DR. WILLIAM S. GOLDSMITH, Atlanta, Ga., said the principles governing the treatment of the bladder after suprapubic cystotomy are: (1) The immediate and complete closure of the bladder and abdominal wound, and (2) the institution of urethral retention catheter drainage. A series of external urethrotomy cases, in which the retention catheter method is used, and following the closure of the perineal incision, convinces him of its efficiency and of the tolerance of the bladder for these unusual conditions. Perfect urethral drainage is such a necessity that failure in securing successful results is attributed to some imperfections of this important factor of treatment. Large stones can not be removed through small incisions without seriously macerating the mucous membrane and other coats and leaving a ragged, lacerated suture line altogether unsurgical in character, and encouraging tissue necrosis with eventually bad results. On the removal of the foreign body, the wound is protected with gauze, the patient turned on his side, and the bladder thoroughly irrigated with urethral catheter. The wound is closed tight with interrupted silk sutures, introduced down, but not including the mucous membrane. The abdominal incision is closed with small chromic catgut and cotton and collodion applied. Elaborate abdominal dressings are not used, for the reason that they serve no purpose other than to interfere with the freedom of the patient in turning from side to side. In adults, and particularly men of middle age, posture is a most important detail. The ability to turn on either side and the insistence of frequent change of position stimulate urinary secretions, prevent puddling of urine, and insure a clean, collapsed cavity, which at once begins a regeneration of exhausted anatomical and physiologic vitality. The semi-erect, and finally the erect position is rapidly assumed, and every effort is directed along the line of forced recuperation and rapid convalescence.

(To be continued.)

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Regular Meeting, held Dec. 23, 1907.

The President, DR. WALTER LESTER CARR, in the Chair.

DR. EDWARD D. FISHER delivered a memorial address on Dr. Seneca D. Powell.

Treatment of Stuttering and Stammering by the General Practitioner.

DR. EDWARD W. SCRIPTURE stated that the terms stuttering and stammering are loosely applied to one disease, which may be defined by its fundamental symptom, namely, excessive in-

nervation of the vocal cords. The symptoms of superenergetic phonation he classes as follows: Cramps and hypertonicity of the breathing muscles, of the laryngeal muscles, of the muscles of pronunciation, accessory cramps, contortions and tics. He believes the disease to be a pure psychomotor neurosis. Among the exciting causes he mentioned irritation in the breathing organs, imitation of other stutterers, fright, etc. Every case of hyperphonia requires special therapeutic procedures. He begins at once to teach the person to speak melodiously, using little verses, and sliding the voice somewhat excessively. Then the individual is taught to speak and converse with melody. This "melody cure" is said to be as simple as it is effective, and Dr. Scripture stumbled on it by chance while trying other cures. This cure is so effective, because the stammering habit is associated with one definite manner of speaking. A stutterer never stutters when he sings. Expressiveness is developed, and Dr. Scripture makes the stutterers talk with the use of gestures, declare emotional pieces, etc. They require distraction from the convulsive idea. Patients are taught to beat time in a vigorous and snappy way. These procedures produce a permanent cure in three-quarters of the number of stutterers and stammerers, providing practice is given as often as possible at first, and then with steadily increasing intervals.

DISCUSSION.

DR. CHARLES L. DANA agreed that stammering is a form of mental tic. A good deal of the success in treatment, he said, depends on the faithfulness of both teacher and patient.

DR. L. PIERCE CLARK classed stammering with the minor psychomotor neuroses. Its real pathogenesis is a disorder in coordination of mental associations. A block in the outlet of the flow of vocalization in speech results in a spread of the cramp defect into adjacent and closely related motor centers, such as spasm of the face, and finally, in the upper and lower extremities. These speech disorders are easily overcome before the cramp habit is old and fixed, and this shows the importance of the ounce of prevention idea. If taken early, the cure habit should have an equal chance with the cramp habit. Nearly all stammerers are usually of emotional and sensitive temperaments.

DR. L. E. LA FETRA believes that these persons should be taught to breathe properly. He favors the form of mental therapeutics employed by Dr. Scripture.

DR. GRAEME M. HAMMOND does not believe that a severe stammerer ever gets well of this trouble so long as he is sensitive, because timidity is a potent factor in keeping up stammering.

Medical Treatment of Trifacial Neuralgia.

DR. CHARLES L. DANA believes that no single measure of therapeutics avails. A subgroup of the disease in question is tic douloureux, which occurs before the age of 40, is severe and chronic in its manifestations, and often is associated with migraine, a form he terms migrainous tic. The more such patients are operated on the worse they become. True tic douloureux is a degenerative neurosis, and is so much associated with vascular conditions that it seems as much a vascular as a nervous disease. There is a tendency to get well spontaneously, and also for remissions. A patient with tic douloureux not over two or three years in duration, he gives the rest cure and strychnin; if the disease has lasted five or six years, the rest cure is of doubtful value; such cases should be handed to the surgeon. The operative treatment as applied by Dr. Abbe, he believes, is effective and satisfactory.

Schlösser's Alcohol Injections for Trifacial Neuralgia.

DR. OTTO KILIANI related his sixteen months' experience with 55 cases, with but three failures. His first paper on this method was published in the *New York Medical Record*, Dec. 29, 1906. Schlösser was the first to employ 80 per cent. alcohol injections, either into the foramen from which the respective branch emerges on to the face or, if necessary, into the foramina ovale and rotundum. Since the last of September, 1906, he has treated by injection 55 cases of facial neuralgia. The second branch was affected in 13 cases, and the second and third in 35 cases; the first and second branches were affected in 4 cases, and all three branches in 3 cases. The neuralgia was established from six months to twenty years. There were 35 men and 20 women. No cause was given in 44 cases; grip was given as a cause in 7 cases; exposure to cold and water in 3, and shock in one case. The left side was affected in 35 cases, the right in 18, and both in 2 cases. The frequency of attacks varied from one in three days to one every few minutes. In all the cases he made peripheral injections first, without narcosis or local anesthesia. Of the 55 cases the treatment failed in only three.

Electric Anesthesia.

DR. JAMES E. KING referred to the work done about three years ago by Dr. Edward W. Scripture in the production of local anesthesia by the sinusoidal current, and to the article of Le Duc. Dr. King first experimented with the Le Duc current. Dogs were used. The head electrode was attached to the negative pole and the positive pole was placed over the kidneys. The dogs pass quickly into a stage of excitement quite analogous to the same stage seen in ether and chloroform narcosis. At this stage the current is increased more rapidly and the animal lapses into unconsciousness. A further increase in the strength of the current secures relaxation and abolition of all movements. After the current is removed the awakening is immediate. Dogs were kept under the influence of this current from a few minutes to two hours. The circulation does not seem to be affected, excepting a slight rise of blood pressure. In some animals the respiration is much embarrassed. When death occurs it is from respiratory failure; the heart continues to beat long after respiration has ceased. The only record of the use of this current in the human being was the testimony of Le Duc himself, who twice submitted himself to it; the length of time he was under its influence was twenty minutes. His return to normal was immediate after the removal of the current.

Value of the Le Duc Current in Neuralgia.

PROF. F. L. TUFTS of Columbia University demonstrated and explained Le Duc's apparatus.

DR. L. PIERCE CLARK said that the majority of electric currents are nerve stimulants; few currents end themselves as nerve sedatives. The Le Duc current is one of the best of this latter class. Until very recently it was generally held that the brain was not directly excitable by the electric current. The possibility of passing an electric current through the intact skull was first shown by Erb in 1867. Of all the deep-seated organs the brain is the most accessible to electricity; in view of this it is difficult to understand why brain disorders have remained untreated by electricity. One of the greatest values of the Le Duc current was shown in the field of cerebral physiology. The general effect of this current when applied to the cerebrum is highly characteristic of normal sleep. The awakening is instantaneous and all the bodily functions resume work as before the application. His own observations concerning the Le Duc current in all forms of peripheral neuralgia show that the relief of all sorts of neuralgia and neuritic pain is instantaneous. The length of time to abolish the pain varies from two to six hours. As a temporary sedative in locomotor ataxia and facial neuralgia he heartily recommends the Le Duc current.

DISCUSSION.

DR. GEORGE E. BREWER said that as the results of his observations, he is convinced that the Le Duc current acts extraordinarily in the production of anesthesia. He has seen animals to whom the current has been applied, go through identically the same symptoms which follow ether and chloroform narcosis, resulting in the same condition of profound surgical anesthesia. As yet they are in no position to try it on the human subject. It would be a great boon to mankind if they could use an agent that does away with the toxic effects, that does not irritate the lungs and kidneys, and which is devoid of unpleasant after-effects.

DR. GRAEME M. HAMMOND believes that tic douloureux is a degenerative process and that it is not curable by any agent at present known. He treats the disease with massive doses of strychnin, gradually increasing the dose until the patient at last takes from one-third to one-half a grain, three times a day. This treatment should be kept up for two or three years.

V 50
1908

Medicolegal

Requirements of Medical Practice Act.

The Supreme Court of California says, in the case of Arwine vs. Board of Medical Examiners of California, in which Arwine sought to compel the board to give him a license, that the medical practice act required that, in order to procure a certificate to practice medicine and surgery in California, the plaintiff must produce before the board of medical examiners, in addition to satisfactory testimony of good moral character, a "diploma issued by some legally chartered medical school, the requirements of which medical school shall have been, at the time of granting such diploma, in no particular less than those prescribed by the Association of American Medical Colleges for that year, or satisfactory evidence of having possessed such a diploma, or a license from some legally constituted institution which grants medical and surgical licenses only on actual examination, or satisfactory evidence of having possessed such a license."

In the matter of credentials, the only documents alleged to have been produced to the board of medical examiners were, first, a diploma issued to the plaintiff from the medical department of the University of the South, at Sewanee, Tenn., which was alleged to be a legally chartered medical school, the requirements of which at the time of granting the diploma were in no material particular less than those prescribed by the Association of American Medical Colleges for that year; and, second, certificates or licenses to practice medicine and surgery granted by the boards of examiners of the District of Columbia and the state of Indiana. As to the latter, it was not alleged nor did it otherwise appear that either of such boards granted licenses "only on actual examination," or that the legal requirements of either of said boards were at the time it issued the certificate in no degree or particular less than those of California at the time when such certificates were presented for registration. So far as the record showed, these certificates were, therefore, insufficient under the requirements of the act, and could not authorize the granting of a license by the defendants.

Concerning the diploma, the court says that, while the allegations of the plaintiff indicated that the requirements of the school were in no particular less than those prescribed by the Association of American Medical Colleges for that year, that allegation was denied by the defendants in their answer. The issue of fact thus made was not determined by the District Court of Appeals; that court saying in its opinion that on the evidence before it that question of fact could not be determined. That opinion did not state any evidence which enabled the Supreme Court to determine that question, and no evidence was introduced before the Supreme Court on the issue. The burden is, of course, on the plaintiff in a proceeding of this character to prove such material allegations in behalf of his claim as are denied by the answer. The finding on this issue must, therefore, be against the plaintiff, and it followed, that, on the case before the Supreme Court, the diploma must be held insufficient under the requirements of the act.

It was suggested that that provision of the act, which makes the rule of guidance the standard set by the Association of American Medical Colleges, is void, because the effect thereof is to delegate to this association a power which, it was claimed, can be exercised only by the legislature itself. But the court holds to the contrary.

It was further urged that the act should be construed as rendering an applicant entitled to a certificate on his passing a satisfactory examination even though he fails to produce the required diploma or license; in other words, that the act entitles him to a certificate either on the production of a proper diploma or license, or on passing a satisfactory examination. But clearly the act will bear no such construction. The language of the provision as to production of diploma or license is such as to necessarily make it applicable to every case, and no exception thereto is declared in any other part of the act. A diploma or license coming up to the requirements of the act is essential in every case to the right to a certificate, however well qualified the applicant may be in other respects.

Wherefore, the court is forced to the conclusion that, notwithstanding the long experience of the plaintiff as a practicing physician and surgeon, extending over a period of more that ten years, and notwithstanding that he may have successfully passed the examination as to his qualifications to practice, it must be here held that he failed to comply with the provisions of the act in the matter of producing a proper diploma or license, and, therefore that he must fail in this proceeding, which was brought to compel the board of medical examiners to issue to him a certificate to practice medicine and surgery.

Liability of Surgeon for Consequences of Too Tight Bandaging or Prior Use of Infected Water.

The Court of Appeals of Kentucky says that the case of Baute vs. Haynes was instituted by the next friend of the latter—named party, an infant nine years of age, to recover damages on account of alleged carelessness and negligence on the part of the defendant, a physician and surgeon, after he had accepted general employment in setting and bandaging her broken arm, and his failure to render to her broken arm, after the first treatment, any further surgical or medical service, and that by reason of his negligence, carelessness, and failure it became necessary for her arm to be amputated. The defendant admitted that he was employed to and did make one trip and set and bandaged the arm alleged to have been broken but averred that one trip was the extent of his employment, and that he was not, and it was not so understood that he was to treat the patient generally, and denied any carelessness, negligence, or failure on his part to render the plaintiff the necessary attention, but averred that he set and bandaged the broken arm in the usual and ordinary manner, as accepted by his profession to be the very best treatment. For further answer he pleaded contributory negligence on the part of the plaintiff's father in refusing and failing to employ or request him to visit the patient after her arm was set, or to provide and give her the necessary and proper attention, as he was requested to do by the defendant on his visit, and that he failed to provide sanitary measures and surroundings as were necessary and that her condition demanded. The court thinks each of the parties produced on the trial evidence to support the allegations made. The jury returned a verdict in behalf of the plaintiff for $1,000.

In affirming the judgment of the lower court, the Court of Appeals says that the plaintiff's arm was broken on Sunday about noon, and the defendant treated it on Monday about noon. In the meantime, and while they were trying to obtain the services of a physician, the plaintiff was lying on a bed, while continued applications of cloths saturated with cold spring water were being applied to the injured arm. The defendant treated the arm by cleansing, using an antiseptic, forced the broken bone into its place, placed plaster-of-Paris splints on it, and bandaged it. Several physicians testified as experts, and the trend of their testimony was to the effect that the arm was bandaged too tight, stopping the circulation of the blood, which caused it to mortify and which necessitated its amputation; but about all of them stated that the mortification might have been produced by the infection of germs or microbes caused by the use of this cold spring water and the cloths.

The defendant's counsel contended that under this evidence the court should have given a peremptory instruction in favor of the defendant, for the reason that, if the plaintiff lost her arm by reason of the infection of the wound by germs in the manner stated, the defendant was in no wise responsible for it, and that under the evidence it could not be ascertained with any degree of certainty whether the germs or the manner of treatment produced the injury, and that the jury should not have been permitted to make a guess as to which was the cause; and he cited Hughes' Adm'r vs. C. & S. R. R. Co., 91 Ky. 526, and Wintuska's Adm'r vs. L. & N. R. R. Co., 14 Ky. Law Rep. 579, as supporting his contention. But in the court's opinion the cases referred to did not apply to the facts of this case. In the cases referred to the persons killed were brakemen on trains. They were found dead, and the court determined that there was no evidence whatever indicating how they met their deaths.

The defendant treated the plaintiff's arm, and bandaged it. The proof was that the bandaged was too tight, and all of the physicians agreed that that would stop circulation and produce gangrene, which would necessitate the amputation of the arm. As to the germs or microbes causing the mortification, it was only a possibility; but, even if caused in this way, it would not of itself have relieved the defendant from responsibility. He was informed when the plaintiff received her injury, and that the applications of this cloth saturated with cold spring water had been made, and he should have used reasonable care and skill to have ascertained whether her arm was infected or not, and, if so, treated her for this infection, and if he failed in this he was responsible.

Prerequisites to a Physician Being Allowed to Testify as an Expert.

The Supreme Court of Oregon says, in Hildebrand vs. United Artisans, that it is a well-settled rule that before a witness can be permitted to give expert testimony it must not be on a subject of common experience. The proper mode of examination is by a hypothetically stated case which should embody substantially all the facts relating to the subject; and a physician testifying as such expert must first be shown qualified to do so either by actual experience in cases similar to the one put to him or by such careful and deliberate study as enables him to form a definite opinion of his own in reference to the matter under consideration. Also, where he is called on to testify from his own knowledge, it must appear that he has trustworthy information and knowledge of facts involved and on which his opinion is to be founded.

Compensation for Physicians as Witnesses.

The Court of Appeals of Georgia holds, in the case of Schofield vs. Little, that, while no statute in Georgia allows or prohibits fees to expert witnesses, and while there can be no charge beyond the legal fees of ordinary witnesses for attendance on the court in obedience to a subpœna, still, as a physician can not be required to make any examination or preliminary preparations, or to listen to the testimony, in order the better to give his opinion as an expert, he may for such services demand extra compensation.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

December 26.

1 *Attitude of the Medical Profession Toward the Psychotherapeutic Movement. E. W. Taylor, Boston.
2 Roentgen-Ray Examinations in Pulmonary Tuberculosis. F. H. Williams, Boston.
3 *Results of Chemical Investigation of Tumors. S. P. Beebe, New York.
4 The "Optometrist." A Warning Word. J. C. Bossidy, Boston.
5 *Strain as a Causative Factor in Infectious Arthritis. J. D. Adams, Boston.
6 Pseudotuberculosis of the Peritoneum. F. Cobb, Boston.

1. **Psychotherapeutic Movement.**—Taylor concludes that in our enthusiasm for the development of a highly significant therapeutic advance we should not allow the traditions of the profession to which we belong to be submerged. Our enthusiasm should not lead to the antagonism of any reasonable member of the profession. In our efforts toward what we regard as progress we should proceed with great deliberation and by recognized logical methods. To this end we should quote cases and exploit methods which have stood the test of experience. We should hesitate in appearing before the public with a detailed expression of our views and theories until we have secured the acquiescence of the conservative members of our own profession. We should not ally ourselves with movements over which we have no immediate control; we can ill afford misinterpretation, especially at the hands of our brother physicians. Our essential aim should be to develop a permanent interest in the psychotherapeutic movement within the ranks of the profession, and do nothing which can in any way retard this effort. To attain this we should urge reasonable but adequate recognition of the claims of psychotherapy as a legitimate and necessary element in medical education. Finally, our one object as members of a liberal profession should be to insist on the importance of psychotherapeutic methods with an enthusiasm which should only be increased by the legitimate limitations set on its action.

3. **Tumors.**—Beebe presents the results of recent chemical investigations of tumors in reference to 1, inorganic constituents; 2, proteids; 3, toxins, hemolytic substances and enzymes. 1. Actively growing tumors were found to contain a much larger amount of potassium and sodium and a much smaller amount of calcium than was found in the old necrotic tumors. These findings have been confirmed subsequently by Clowes and Frisbie. The studies of the distribution of iron, phosphorus and potassium as carried out by microchemical reaction have not shown any peculiarities that differentiate tumors from normal tissue. 2. As regards the character of the proteids found in malignant growths, compared with those in normal tissues, his conclusions accord with those of Petry and Wolff, namely, that a larger amount of nucleoproteid, less globulin, more albumin, and much more non-coagulable nitrogen is found in tumors than in normal tissues. As to the chemical composition of the primary growths compared with that of the secondary growths in some distant organ, he found that primary epithelial growths did not contain nucleo-histone, while the secondary growths found in the lymph nodes invariably yielded nucleo-histone. He can not agree with Bangs' conclusions, therefore, that the primary growth has its origin in an embryonic lymphatic cell group. He believes that chemically at least the metastases are not, in all respects, similar to the primary growth. For various reasons he considers that the evidence of the superiority of tryptic digestion over peptic digestion, as a distinguishing characteristic of tumors from normal tissues, is inconclusive. 3. Tumor extracts, and especially necrotic tumor extracts, have a much greater toxic effect than extracts of normal tissues and a much smaller amount of tumor nitrogen than of extract from autolyzed normal organs is required to produce a fatal result. He is unable to state whether these are characteristics of neoplasms. Regarding hemolytic substances, extracts of normal organs containing blood are markedly hemolytic; extracts of blood-free organs are very slightly hemolytic, but may be activated by adding a trace of hemolyzed red blood cells; extracts of fresh, vigorously growing tumors are more hemolytic than those from most normal organs, but extracts from necrotic organs and tumors are a hundred-fold more hemolytic. The author has recently obtained additional evidence that the hemolytic substance in the tumor is really a factor in causing anemia and cachexia, which, of course, are most profound in patients with large necrotic tumors. While he has no experimental evidence that tissues other than blood cells suffer from this lytic action, he believes that they do. It was found that tumors are rich in enzymes, but no specific enzyme has been found that is present in one kind of tissue and lacking in another, that would suffice in any way to explain the tumor process.

5. **Infectious Arthritis.**—Adams reports cases of so-called infectious arthritis and concludes that whatever the cause in this class of cases, whether of chemical or bacteriologic origin, one is justified in considering strain as a causative factor. The trouble in all his cases was confined to the hand; all the patients worked with heavy goods, and in several cases the symptoms started in the thimble finger. The treatment consisted of dieting, sodium benzoate 5 grains, three times a day, to neutralize the acidity, and daily baking, either applying a 100-candle-power light for twenty minutes close enough to be tolerated by patient over bare skin, or in a wooden asbestos lined box containing six 16-candle-power lamps.

Medical Record, New York.

December 28.

7 *Unclassified Dangers in Anesthesia. J. T. Bryant, New York.
8 Environment and Personal Hygiene as Causes of Consumption. R. C. Newton, Montclair, N. J.
9 *Bacteria as Inciters of Malignant Endocarditis. A. Wadsworth, New York.
10 *Skiagraphy in Orthopedic Surgery. F. H. Albee, New York.
11 Hot Springs, Virginia. G. Hinsdale, Hot Springs, Va.
12 Appendicitis Due to Presence of Oxyuris Vermicularis. M. C. Thrush, Philadelphia.

V 50
1908

7. **Anesthesia.**—Bryant considers some of the dangers incident to anesthesia. The induction of new methods and the use of novel mechanism for the sake of originality are often more pernicious than beneficial, both to the patient and to the cause of anesthesia. Unripe anesthetists, and even some of maturer growth, trust too much to the mechanical action of apparatus or to therapeutic modifying measures. Specialism is of the utmost value, but it will be long before the use of trained anesthetists can be universal. In medical education, therefore, training should not be monopolized by the mechanical standpoint, but should include an established physiologic comprehension of the effects of anesthetics, so that significant phenomena may be promptly interpreted and fittingly estimated. The anesthetists should be well acquainted with the simplest as well as the more complex modes of administration.

9. **Malignant Endocarditis.**—Wadsworth states that malignant endocarditis develops on injured or diseased endocardium as a secondary localization of the bacteriemia or pyemia of infectious disease. It may be incited by many different species, but usually the pneumococcus, streptococcus, staphylococcus or gonococcus is present. It may be associated with any infectious disease, especially pneumonia or sepsis. The lesions of the endocardium when freed of their mycotic nature tend to heal. The treatment depends primarily on the balance between the two opposing factors of infection, the body cells and the bacterial cells.

10. **Skiagraphy.**—Albee states that it is desirable to inspect the plate itself rather than the print, and that care should be taken to hold the plate at proper distance from the light so that the light may be diffused equally over it. The most common bone disease is tuberculosis. The first point most usually noticeable is the thickening of the capsule, with blurring of the outlines of the bony elements of the joints; later there is erosion of articular surfaces and destruction of bone. Bone atrophy is also significant, and is shown in a lessening of the thickness of the shaft and a rarification of the bone, while the epiphysis becomes enlarged and has a characteristic squaring. The differentiation between the synovial type and the bony type is important as the latter is amenable to operative treatment. Much can be discovered as to the progress of the disease by a repetition of exposures at intervals. The *x*-ray picture permits a differentiation between the syphilitic and tuberculous forms of dactylitis. A cyst-like condition of the phalanx with marked atrophy of neighboring bones is characteristic of tuberculosis, while in syphilis there is less atrophy, the articular surfaces are less often involved, and there is a new deposit of bone beneath the periosteum. Osteomyelitis rarely affects the epiphysis, but confines itself to the shaft, being limited to the epiphyseal cartilage. Thickening of the cortex and the deposit of bone beneath the periosteum are the most characteristic evidences of both congenital and hereditary syphilis. Sarcomata often can be discovered by the *x*-ray.

New York Medical Journal.

December 28.

13 Neurasthenia: Its Relation to Personality. J. E. Donley, Providence.
14 *Tuberculosis of the Bones and Joints of the Lower Extremity. H. Lilienthal, New York.
15 Tendency to Consumption. J. B. Huber, New York.
16 Modern Management of Tuberculosis. B. H. Waters, New York.
17 *Silver Nitrate in Gastric Diseases. H. Weinstein, New York.
18 Oxychloranilin Reaction for Free Hydrochloric Acid. R. L. Pitfield, Philadelphia.

14. **Tuberculosis of Bones.**—Lilienthal discusses the diagnosis and treatment of tuberculosis of the bones and joints of the lower extremity, describes his own method of treatment in various forms of bone trouble, and incidentally expresses the opinion that useful as Bier's method and the therapy by cold, fresh air may be, they are apt to be overdone. Surgical mechanics can not with safety be neglected.

17. **Silver Nitrate in Gastric Diseases.**—Weinstein's observations lead him to recommend the use of silver nitrate internally in all irritative conditions of the gastric mucosa characterized by increased secretion, hyperacidity of the gastric juice, nausea, vomiting and pain. It is useless, however, in gastric neurosis. He considers it superior to any drug for the relief of pain in gastric ulcer, acute or chronic. In benign pyloric stenosis gastric lavage, followed by the internal administration of silver nitrate, a non-irritating diet, and olive oil on an empty stomach has never failed in his experience. From one-quarter to half a grain in solution, three times a day on an empty stomach, is the method of use; neither food nor drink should be taken for half an hour. It is rarely necessary to continue its use more than three weeks, and it should be discontinued at once if the intestines react unfavorably.

Lancet-Clinic, Cincinnati.

December 21.

19 *Stomach and Intestinal Colic. F. L. Ratterman, Cincinnati.
20 Strophanthin. J. Burke, Manitowoc, Wis.

19. **Colic.**—Ratterman says that the physiology of gastric as well as of intestinal peristalsis calls for a single dilatation of the muscle in the stomach and intestinal coil, followed immediately by a single wave-like contraction from above downward toward the anus, decreasing in contracting force as it progresses. In the colon the peristalsis normally occurs by the expansion and contraction of the haustra in regular rotation from above down. Normally, when the gastric and intestinal contents are contracted on, the contraction is not of the severity to retain the food within the contracted area, as occurs in colic, but allows part of it to regurgitate backward as well as part to be propelled forward into the relaxed areas. Colic, both gastric and intestinal, is a violation of the rule of contrary innervation, in that the intestine as well as the pyloric sphincter or pyloric antrum tonically contracts, while the intestinal coil or gastric muscles immediately above this point at first slowly contract in peristaltic action and then rapidly increase in intensity until the intestinal or gastric contents are forced against the antagonistically strictured muscle below. The result is that the contracting coil immediately above the stricture must dilate to the extent of the quantity of stomach and intestinal contents forced into it. The severe tension in the muscles of this area is so great that the nerves supplying them, although non-sensitive under ordinary conditions, are now irritated and awaken the symptom of pain. Heredity plays a great rôle in the etiology of stomach and intestinal colic. Furthermore, indiscretions in both eating and drinking and climatic changes often cause it; hyperacidity can cause it in those predisposed by heredity or former attacks; constipation is a fruitful agent for colic; constitutional poisons, as uric acid, lead, etc., often produce it; disturbances in the general nervous system can underlie it; and, finally, a dislocated kidney or diseases of the gall bladder, kidney, uterus and appendix can reflexly be the offending cause. Sudden attacks of severe pain in either epigastrium or the entire abdomen initiates the condition, and this symptom is occasionally followed by nausea, alone or associated with vomiting, and by a peristalsis of such a violent nature as not only to be frequently observed when sitting by the side of the uncovered abdomen of the patient, but to be felt by the palpitating fingers. To treat colic properly, the accidental causes above stated must be borne in mind and eradicated, especially when caused reflexly by dislocations of and diseases in other organs.

Pennsylvania Medical Journal, Athens.

November.

21 *Pathology and Classification of Nephritis. J. McFarland, Philadelphia.
22 *Circulation in Nephritis. W. B. Stanton, Philadelphia.
23 *Uremia. J. M. Anders, Philadelphia.
24 *The Eye and the Kidney. G. R. de Schweinitz, Philadelphia.
25 *Symptomatology and Treatment of Acute and Chronic Nephritis. J. I. Johnston, Pittsburg.
26 *Modern Means of Diagnosis in Surgical Diseases of the Kidney. C. P. Noble, Philadelphia.
27 *Surgery of Movable Kidney. J. C. Da Costa, Philadelphia.
28 *Treatment of Surgical Affections of the Kidney. E. Martin, Philadelphia.
29 *Treatment of Nephritis. J. Tyson, Philadelphia.
30 Surgical Treatment of Gastric and Duodenal Ulcers. G. W. Ely, Pittsburg.
31 Case of Electric Light Burn of the Eyes with Transient Blindness. B. Chance, Philadelphia.
32 Displacement of Heart to Right Side. R. J. Behan, Pittsburg.

21. **Pathology of Nephritis.**—McFarland states that the morbid conditions of the kidneys collectively spoken of as nephritis present themselves as follows: 1. Those depending on and occurring in association with well defined and easily recognized

lesions originating primarily in the kidney or the structures with which it is in relation. In this group may be placed nephrolithiasis, hydronephrosis, pyonephrosis, "surgical kidney," tuberculosis and the neoplasms. 2. Those depending on the colonization in the kidney of micro-organisms brought from distant primary foci of disease by the circulating blood—pyemia, miliary tuberculosis, septicemia, smallpox, etc. 3. Those depending on certain constitutional disturbances of uncertain nature, characterized by general fibrosis of all the organs, with cirrhotic changes in the kidney—arteriocapillary fibrosis, arteriosclerosis, chronic syphilis, gout, lithemia, etc. 4. Those depending on chronic forms of intoxication with fibrotic changes chiefly located in the kidneys—chronic interstitial nephritis, lead poisoning, etc. 5. Those depending on definite chemical intoxications, as by cantharides, turpentine, mercuric chlorid, phosphorus and ether. 6. Those resulting from intoxications associated with various well-known infectious diseases, such as yellow fever, scarlatina, pneumonia and diphtheria. 7. Those occurring in certain definitely toxic affections not known to be infectious, as acute yellow atrophy of the liver. 8. Those developing during periods when the metabolic and physiologic equilibrium of the body are disturbed, as at puberty or during pregnancy. 9. Those arising from causes not yet explained. All nephritis is toxic and secondary to lesions in other organs, charging the blood with injurious matter. Many toxins have irritative effects in common and others peculiar and specific. Sometimes they have definite specific affinities acting most on certain cell groups, or they are so complex as to affect different tissues in different ways. The degree of concentration modifies the effects. Where one toxic substance is at work others soon make their appearance. The simplest classification is the best. McFarland divides nephritides into those chiefly affecting connective tissue framework—interstitial—and those chiefly affecting epithelium—parenchymatous. He criticises the existence of many redundant terms, e. g., tubular, exudative and croupous nephritis. He discusses briefly the morbid anatomy, calling special attention to the difference between the atrophic kidney of arteriosclerosis, which is but little below normal size, is deeply pitted and grooved, and permits of easy stripping of the capsules from a smooth shining surface, and chronic interstitial nephritis. He also points out that for once that one sees the typical lesions one encounters atypical or combined lesions ten times, and that an apparently badly diseased kidney often shows but little microscopic destruction, and vice versa. A kidney with localized serious disease, other parts remaining unaffected, is probably much better than one in which the entire substance is affected though only very slightly. He then describes in detail the microscopic lesions of nephritis as they affect the interstitial tissue, the glomeruli and the tubules.

22. **Circulation in Nephritis.**—Stanton describes the anatomy and physiology of the kidney, and considers the effects of disease of the kidneys on the circulation, and especially on the heart. In answer to the question why the heart hypertrophies, or what amounts to the same thing, why the blood pressure is increased, after reviewing and criticising the various theories advanced, he considers the most tenable theory at the present time to be that of Bright, that the cause of increased pressure lies in some disturbance or irritation of the walls of the smaller vessels, probably dependent on a change in the constitution of the blood. The incompleteness of the theories offered in explanation is due to the fact that attempts have hitherto been made along purely physical mechanical lines. In the diagnosis of cardiac hypertrophy in kidney cases the classical signs are accentuation of the aortic second sound, heaving apex beat, and a hard pulse. The presence of all renders the diagnosis certain, but the converse is not true; the only certain sign of increased pressure is a blood pressure estimation with a reliable apparatus. As to the significance of heightened pressure, Stanton considers it a conservative effort, so that a marked reduction by drugs may result disastrously. The proper course is correction of the mode of life and regulation of diet and exercise, maintaining the heart's nutrition and enabling it to keep pace with its work.

23. **Uremia.**—Anders considers that it may be assumed that interference with albuminous metabolic processes, followed by disturbed hepatic function and renal function, explains the etiology of uremia most satisfactorily. He discusses the symptoms and diagnosis at length, calling particular attention to the importance of not neglecting laboratory methods and to the liability of confusing cerebral apoplexy or hemiplegia with uremic conditions, and the occurrence of well-developed acute uremia secondary to the acute infection. On the other hand, chronic uremia may simulate the acute infections, particularly typhoid, opium poisoning and diabetic coma. While, as Osler states, patients with chronic uremia succumb to terminal affections—peritonitis, pericarditis, pleurisy, meningitis or endocarditis—Anders has observed that a fatal acute uremia may develop secondarily to these terminal conditions in chronic nephritis. Any plan of treatment that does not include prophylactic measures is incomplete. The symptoms of the early stage are a signal for diaphoresis, catharsis and diuresis. He employs nitroglycerin freely when necessary, combining it with aconite; the dosage is proportioned to the degree of abnormal pressure. Nitroglycerin 1 minim, and tincture of aconite 2 minims, every third hour has proved successful. He confirms Robinson's eulogy of nitrous ether as effective and innocent. Hot wet packs or dry hot air baths, saline laxatives or elaterium, are approved. Pilocarpin he considers dangerous. He has witnessed good results from morphin in the acute and chronic parenchymatous varieties, but agrees with Tyson that it is harmful in the chronic interstitial variety. He directs special attention to the gastrointestinal group of symptoms, and says that no attempt should be made to arrest a uremic diarrhea.

24. **The Eye and the Kidney.**—De Schweinitz recounts the ocular lesions associated with nephritis, describes the varieties of renal disease that produce retinal lesions, and considers the date of occurrence of retinal lesions, the age at which they occur, their frequency, course, and prognosis, pathology, diagnosis, and the alterations in the caliber and relation of the retinal blood vessels, as a sign of nephritis. He states that the most frequent manifestation of renal retinitis is a congestion of the optic nerve with small scattered hemorrhages and dots in the macula and fluffy exudates in the periphery of the eye ground; also, he says that, in association with other indications of arteriosclerosis, the so-called "silver wire arteries" are significant of a process likely to eventuate in chronic interstitial nephritis. Finally, he states that the presence of normal vision does not in any sense exclude the existence of the retinal lesions of chronic Bright's disease.

25. **Acute and Chronic Nephritis.**—Johnston discusses the symptomatology of chronic nephritis, both parenchymatous and interstitial, making mention also of postural albuminuria. He discusses the general treatment of all forms of nephritis, and states that it is his practice in acute nephritis to give normal saline solutions by the mouth when no edema is present, and that he has seen only good follow. Of medicines, when indicated, he uses fresh infusion of digitalis, or liquor ammoniæ acetatis with 1 grain of caffein. In chronic nephritis, he orders liquid and salt-free non-nitrogenous diet, saline purgatives, and caffein. In edema with anemia iron alone is of use. In uremic convulsions he gives morphin at once irrespective of the type of the disease. He has used chloral hypodermically with happy results.

26. **Modern Diagnosis in Kidney Diseases.**—Noble discusses the following modern means of diagnosis. Cystoscopy, with catheterization of the ureters, the *x*-ray; microscopic study of the separate urines obtained from each kidney; study of the bacteria of the separate urines, including the injection of urine so obtained into guinea-pigs for the study of micro-organisms by inoculation; cryoscopy, or the freezing point of urine; the bilateral exploratory incision of Edebohls.

27. **Movable Kidney.**—Da Costa discusses the nature of movable kidney, the technic of examination, the symptomatology and the operative measures when rendered necessary by ineffectiveness of the various bandages and other supporting procedures.

28. **Surgical Affections of Kidney.**—Martin gives the following as the order of the frequency of kidney conditions calling for surgical intervention: Calculus, tuberculosis, acute and subacute infections of other forms, excessive mobility, new

V 50
1908

growths, ureteral obstruction. He describes the appropriate measures for each case.

29. **Treatment of Nephritis.**—Tyson points out that in both parenchymatous and interstitial nephritis the immediate cause is an irritant, and our first duty is to recognize what that irritant is—infectious diseases, over-eating or over-drinking (especially alcohol, tea, coffee), intestinal products, etc. A nicer judgment is often required to treat chronic than acute cases. Basham's mixture is too carelessly administered. Tyson gives it now less than he used to. Iron in small doses, with very small doses of bichlorid of mercury freely diluted, is recommended; he also advises purgatives, the iodids as vasodilators, and the derivatives of the caffein group. In uremia he recommends venesection with hypodermoclysis, purging, and sweating, and high colonic injection of hot salt solutions administered slowly. In edema, scarification and Southey's tubes. He does not think much of nitroglycerin, but thinks it harmless and tending to relieve high tension. In the high tension of granular kidney, however, exceeding 160 milligrams of mercury, it is of signal service; 1/100 of a grain is given every two hours until the effect is produced. In low tension digitalis and caffein must be substituted. He accords Edebohls' operation a place in treatment, but does not consider it curative. He urges insistence on an ophthalmoscopic examination in every case of Bright's disease at least twice a year. In renal headache he advises pilocarpin nitrate or hydrochlorid, beginning with 1/12 grain, rapidly increased, to produce an effect on the skin.

Journal of Michigan State Medical Society, Detroit.

November.

33 *Survey of the Endemic and Epidemic Bowel Disturbances Prevailing in Escanaba. O. C. Breitenbach, Escanaba.
34 *The Diazo Reaction in Urine. W. Haughey, Battle Creek.
35 Diagnosis and Differential Diagnosis of Gall-bladder and Bile-duct Disease. F. B. Walker, Detroit.
36 Individual Viewpoints in Medicine. C. B. Stockwell, Port Huron.
37 *Case of Empyema with Difficulties. F. B. Florentine, Saginaw.
38 *Wherein Can the Trained Specialist Aid the General Practitioner. E. J. Bernstein, Kalamazoo.

33. **Bowel Disturbances in Escanaba.**—Breitenbach gives an analysis of epidemic and endemic bowel disturbances prevailing in Escanaba, showing four distinct types. The article is accompanied by tables and plates of interest to sanitarians as indicating the relation of interdependence existing between the temperature and typhoid and other bowel troubles. He pleads for a greater employment of the schools as disseminators of sanitary knowledge, for the establishment of a public health conference, for the establishment of a national department of health with cabinet representation, and for a greater effort on the part of the profession, in the words of Senn, to "interest our governments, our people, our educators, and the public press in this great movement of abolishing preventable disease."

34. Abstracted in THE JOURNAL, July 13, 1907, page 181.

37. **Empyema with Difficulties.**—Florentine reports the case of a boy, fourteen years old, who, following an unusually severe attack of lobar pneumonia, became the subject of a right-sided empyema due to pneumococci. Operation was refused at first, but agreed to on the following day. Florentine then aspirated and removed three and one-half pints of pus. This procedure was repeated on the ninth day, and again on the eighteenth, with a similar result each time. The patient then having improved sufficiently, a radical operation was done. The boy was delirious for a time, and recovery was protracted, although complete. Florentine believes in early operation, always preceded by aspiration; in resection of rib or ribs in preference to other methods, and in large drainage tubes. He employs irrigation only in cases of fetid discharge.

38. Abstracted in THE JOURNAL July 13, 1907, page 179.

Iowa Medical Journal, Des Moines.

December.

39 Iritis Due to Diseases of the Sinuses. F. G. Murphy, Mason City.
40 *Relation of Nasal Accessory Sinus Trouble to Asthma. L. W. Dean, Iowa City.
41 Corneal Ulcers. C. P. Frantz, Burlington.
42 Our Duty to the School Child. W. J. Bussey, Sioux City.
43 *Otologic and Rhinologic Aspects of Vaccine Therapy. E. R. Lewis, Dubuque.
44 Address of Chairman of Section on Obstetrics of Iowa State Medical Society. H. C. Eschbach, Albia.
45 Abortion. C. B. Taylor, What Cheer.

40. **Asthma and Accessory Sinus Trouble.**—Dean reports three cases in which treatment for nasal accessory sinus trouble appeared to mitigate asthmatic trouble almost to the point of extinction. He considers them associated conditions rather than cause and effect.

43. **Vaccine Therapy in Otology.**—Lewis says that vaccine therapy is applicable to acute or chronic affections of other than transient nature. It is especially suitable in tuberculosis, and the results are more hopeful than those of other methods. *Staphylococcus pyocyaneus* and gonococcus infections are promising in the order named. The pneumococcus and *Bacillus lanceolatus* are unsuitable for this treatment. Vaccines should never be used without careful supervision of the opsonic index throughout the course of treatment. He especially condemns the use of Tuberculin TR. Surgical measures should be undertaken during vaccine treatment only when the opsonic index is high.

Northwestern Lancet, Minneapolis.

November 15.

46 Prevention of Prostatic Hypertrophy. H. Peddicord, St. Paul.
47 Treatment of Empyema of the Antrum of Highmore. E. H. Parker, Minneapolis.
48 Ether and Chloroform Anesthesia. D. E. Arnold, Aberdeen, S. D.
49 Early Operation in Appendicitis. J. T. Asbury, Wabasha, Minn.

Western Medical Review, Omaha.

December.

50 *Arteriosclerosis, with Special Reference to Intermittent Claudication. A. D. Dunn, Omaha.
51 *Nervous Symptoms Depending on Arteriosclerosis. F. E. Coulter, Omaha.
52 *Combined Gynecologic Operations. P. Findley, Omaha.
53 Albuminuria in the Insane. L. B. Pillsbury, Lincoln.
54 Hyoscin, Morphin and Cactin Anesthesia. O. Grothan, Kearney.

50. **Arteriosclerosis.**—Dunn discusses the etiology of this condition under the three heads of syphilis, hypertension and heredity. He considers the physiology of blood pressure, and enumerates among the factors leading to more or less continuous hypertension strain, infectious diseases, nephritis, toxins (including tobacco, coffee, tea), gastrointestinal toxins, ptomains (of meat, cheese, game, etc.), constitutional diseases (obesity, diabetes and gout), and heredity. He describes the symptomatology in reference to arteriosclerotic or senile atrophic kidney, cardiac decomposition due to arteriosclerosis, and intermittent claudication, of which the chief symptoms are intermittent pain, cramps, limping, weakness, lameness, stiffness, cold and numbness, paresthesias, paleness and cyanosis. He discusses this condition at some length.

51. **Arteriosclerosis and Nervous Symptoms.**—Coulter points out that the etiology of the nervous aspect of arteriosclerosis is practically the same as that found in general arteriosclerosis. Those engaged in mental labor or inclined to worry or who have inherited a neurotic temperament, are especially liable to an involvement of the arteries of the nervous centers. The nervous symptoms are referable either to the peripheral nerves, the cord, or the brain (including mental alterations). Any group of arteries may be the principal seat, other vessels escaping for a time, which may result in the localization of the symptoms in one of these directions the other regions apparently escaping. He points out that the anatomic disposition of the blood supply of the cord results in the anterior portion being more frequently affected than the posterior. Hence motor and trophic changes are more common than sensory. He discusses the cerebral symptoms at length and urges a guarded prognosis in all neurasthenic cases accompanied by any evidence of arteriosclerosis. He further insists on the use of a sphygmomanometer in place of relying on the touch.

52. **Combined Operations.**—Findley urges the importance of attention to minor lesions that would not of themselves justify a major operation, whenever such conditions are found in the course of major operations.

Kentucky Medical Journal, Bowling Green.

November.

55 *President's Address Before Kentucky State Medical Association. D. M. Griffith, Owensboro.
56 Preventive Medicine and Sanitation. C. H. Vaught, Richmond, Va.

57 Stale Points for Life Insurance Examiners. J. G. Cecil, Louisville.
58 Pregnant Women. B. M. Taylor, Greensburg.
59 Obstetrics in Country. J. J. Gibson, Lexington.
60 Therapeutics of Wheat Dough, with Report of Case. A. S. Cook, Monticello.
61 Acute Nephritis. T. D. House, Hopkinsville.
62 Cholera Infantum. J. H. Rice, Hopkinsville.
63 Puerperal Eclampsia. D. H. Erkeletian, Hopkinsville.

55. Abstracted in THE JOURNAL, Oct. 26, 1907, page 1465.

Journal of the Arkansas State Medical Society, Little Rock.

November.

64 Surgical Affections of the Kidneys. F. H. Clark, El Reno, Okla.
65 Autointoxication. E. T. Barlow, Dermott.
66 *Treatment of Gonorrheal Prostatitis by Acetelyne Gas. A. U. Williams, Hot Springs.
67 *Supplementary Report of Case of Fracture of the Spine. C. J. March, Fordyce.
68 Interesting Case of Boils Apparently Caused by Worms. D. T. Wilson, Hampton.
69 Double Pneumonia with Complications. N. H. Jackson, Pontoon.

66. **Acetylene Gas in Gonorrheal Prostatitis.**—Williams reports a case of gonorrheal prostatitis treated with acetylene gas. The apparatus consisted of an ordinary wide mouth, one gallon glass bottle, six feet of small rubber tubing and a glass nozzle with a blunt point. The jar should be from one-half to one-third filled with water and a piece of carbide the size of the thumb dropped in from time to time until the treatment has continued for ten or twelve minutes. The nozzle should not be held too tight in the urethra when the evolution of gas is strong. In Williams' case improvement was noted after the second treatment and continued. No unpleasant symptoms were observed.

67. Abstracted in THE JOURNAL, June 22, 1907, page 2147.

West Virginia Medical Journal, Wheeling.

December.

70 *Cardiospasm: Its Frequency, Causes and Treatment. C. A. Wingerter, Wheeling.
71 Consideration and Treatment of Alcoholic and Other Narcotic Habitués. G. H. Benton, Chester.
72 *Conservative Treatment of Compound Fractures. H. G. Nicholson, Charleston.
73 Chloroform Anesthesia and the Anesthetist. C. N. Slater, Clarksburg.
74 Frontal Sinusitis. H. R. Johnson, Fairmont.
75 Case of Hydatidiform Pregnancy. E. A. Hill, Clarksburg.

70. **Cardiospasm.**—Wingerter emphasizes the following points: Cardiospasm is probably not infrequent, but cases doubtless are being overlooked by most clinicians. There is a sequence-symptom-complex that is almost pathognomonic of the affection. In diagnosing cardiospasm it will often be necessary to elicit the typical clinical history by skillful questioning. Cardiospasm is not an affection to be found only in hysterical women. Gastroptosis may have a pathogenic relation to cardiospasm. In severe cases forcible dilatation of the cardia will generally bring about an apparent cure. Gastrotomy and dilatation from below may be done when dilatation from above has been found ineffectual or impracticable.

72. This article was published in the *Virginia Medical Semi-Monthly*, September, 1907.

Northwest Medicine, Seattle.

December.

76 Myoclonus Multiplex. W. T. Williamson, Portland, Ore.
77 *Traumatic Neurosis. W. H. Axtell, Bellingham, Wash.
78 Congenital Dislocation of Hip. P. W. Willis, Seattle.
79 Acute Otitis Media. W. Johnston, Spokane.

77. **Traumatic Neurosis.**—Axtell discusses the history of this many-named condition, and says incidentally that a legal settlement has been in his experience the most effectual treatment. The description of traumatic neuroses without discoverable lesions has left a permanent menace to physicians as well as to all employers of men. Traumatic neuroses, or railway spine, in Axtell's opinion, is nothing more nor less than a case of hysteria born in the attorney's shop like a "brain storm," both of which have no place in medical and surgical annals, save as they serve to annoy the surgeon and employers. There should be a fixed distinction in all writing between a neurosis with lesions and one without. Treatment is impossible so long as medical men are permitted to appear on both sides of the case. Until the court appoints a special commission to decide each case on its own merits the medical profession will suffer at experts and unfair damages will be extorted.

Detroit Medical Journal.

November.

80 Description of Killian's Frontal Sinus Operation. (Concluded.) E. E. Foster, New Bedford, Mass.
81 *Infectious Arthritis of Tonsillar Origin. P. M. Hickey, Detroit.
82 *Defects of Ordinary Insurance Examinations. W. Kuykendall, Eugene, Ore.

81. **Infectious Arthritis.**—Hickey holds that chronic rheumatism and arthritis deformans are meaningless terms as titles of diseases and should be used simply as descriptive of symptoms. Infectious arthritis is a comparatively common pathologic condition; no chronic case should be classed as hopeless without the most painstaking investigation; infectious arthritis of tonsillar origin is often favorably affected by removal of the tonsils; and, finally, he states that the Roentgen-ray is a valuable aid in the diagnosis of such joint conditions as are commonly considered to be medical.

82. This article was published in the *Medical Sentinel*, October, 1907.

Maryland Medical Journal, Baltimore.

November.

83 A New Rectal Sign. A. K. Bond, Baltimore.
84 *Annual Oration Before Medico-Chirurgical Faculty of Maryland. G. H. Simmons, Chicago.
85 *Indications for Surgical Intervention in Treatment of Chronic Suppurative Otitis Media. H. O. Reik, Baltimore.
86 *Proprietary and Patent Medicines. L. B. Henkel, Jr., Annapolis.
87 Value of Laboratory Methods in the Early Diagnosis of Gastric Carcinoma with Report of 27 Cases. C. U. Smith, Baltimore.

84. This address was published in THE JOURNAL, May 18 1907, page 1645.

85 and 86. Abstracted in THE JOURNAL, May 11, 1907, page 1625.

Progressive Medicine, Philadelphia.

December.

88 Diseases of the Digestive Tract and Allied Organs: The Liver and the Pancreas. J. D. Steele, Philadelphia.
89 Diseases of the Kidneys. J. R. Bradford, London, Eng.
90 Surgery of the Extremities: Fractures, Dislocations, Tumors, Surgery of Joints, Shock, Anesthesia, and Infections. J. C. Bloodgood, Baltimore.
91 Genitourinary Diseases. W. T. Belfield, Chicago.
92 Practical Therapeutic Referendum. H. R. M. Landis, Philadelphia.

St. Paul Medical Journal.

November.

93 Raynaud's Disease. L. Sogge, Windom, Minn.
94 *Membranous Laryngitis a Complication of Influenza. J. E. Schadle, St. Paul.
95 *Sanitary Proficiency. E. F. Bigelow, Owatonna, Minn.
96 Hernia. C. C. Allison, Omaha, Neb.
97 Some Ophthalmologic Paradoxes. J. H. Stewart, St. Paul.

94. **Influenzal Laryngitis.**—Schadle calls attention to the membranous laryngitis not infrequently seen in epidemic influenza. He regards it as an infectious disease of the larynx, which in all probability forms the starting point of the infection and urges that whenever laryngeal symptoms manifest themselves the laryngoscope should at once be resorted to. The first noticeable thing is acute hyperemia, especially of the epiglottis, then pinhead-like ulcers covered with a delicately formed white exudate which coalesce into a homogeneous membrane. The glottic surfaces of the glottis are next affected, then the interarytenoid, the arytenoid cartilages. The true vocal cords remain unaffected. Desquamation is tardy and follows the orders of inception, two or three weeks being required for total subsidence of the condition. A case is reported.

95. **Sanitary Proficiency.** Bigelow considers that the only means by which it will be possible to render the labors of the state board of health less honorary and more efficient is the state legislature, which should be prevailed on to enact laws to the following effect: First, require members of the state board of health to be nonpartisan politically; second, the members of the state board of health shall, hereafter receive their appointments through recommendations from the medical profession of the state; third, the state board of health be authorized to appoint the presidents of the boards of health in cities

V 50
1908

of 1,500 or more inhabitants in the interior portions of the state, and that the state board shall be required to select as quickly as possible for such positions professional men who are up to date and qualified through a practical knowledge of analytic, microscopic and bacteriologic laboratory work. One of the appointers to each city board should be also the president of the county board in the county in which he lives. Such appointee, in addition to the usual duties of office, should do the laboratory work arising in his neighborhood, look after the city water supply, determine its purity, and under the directions of the state board of health inspect the laying of sewer systems and their extensions, direct the disposition of sewage, as to the proper outlets, whether by the river route or through disinfecting tanks, enforce the pure food laws, and if necessary analyze suspected adulterated food, and perform any professional labor required of him by the county or city in which he resides; his proficiency making him an authority, independent in character, capable of giving disinterested and unbiased testimony in medicolegal questions arising in the district courts.

Mississippi Medical Monthly, Vicksburg.

December.

98 Conservative Forceptry. L. Newman, Ecru.
99 Spasmodic Asthma. A. L. Morris, Gulfport.
100 Some Ancient and Modern Theories of the Propagation and Treatment of Malarial Diseases. H. C. Buck, Friar's Point.

Albany Medical Annals.

December.

101 The Right Upper Abdominal Quadrant. H. E. Lomax, Albany.
102 Early Treatment of Pulmonary Tuberculosis. Daniel V. O'Leary, Jr., Albany.

Therapeutic Gazette, Detroit.

November.

103 *Pathology and Classification of Nephritis. J. McFarland, Philadelphia.
104 *Study of the Symptomatology and Treatment of Acute and Chronic Nephritis. J. I. Johnston, Pittsburg.
105 *Treatment of Nephritis. J. Tyson, Philadelphia.
106 *Circulation in Nephritis. W. B. Stanton, Philadelphia.
107 *Surgery of Movable Kidney. J. C. Da Costa, Philadelphia.
108 *Treatment of Surgical Affections of the Kidney. E. Martin, Philadelphia.
109 *Uremia. J. M. Anders, Philadelphia.
110 *The Eye and the Kidney. G. R. de Schweinitz, Philadelphia.

103 to 110. Published in the *Pennsylvania Medical Journal*, November, 1907. See abstracts 21 to 25 and 27 to 29 in this issue.

Louisville Monthly Journal of Medicine and Surgery.

December.

111 Gall-Bladder Diseases. J. R. Wathen, Louisville.
112 Anesthesia. C. H. Whitlatch, Louisville.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

December 14.

1 *Prognosis in Relation to Treatment of Tuberculosis of Genitourinary Organs. R. J. Godlee.
2 *Gastric Conditions in Wasted Infants, Especially Hypertrophic Pyloric Stenosis. R. Miller.
3 Two Cases of Congenital Deficiency of the Muscles of the Abdominal Wall, with Pathologic Changes in the Genitourinary Organs. G. Hall.
4 Case of Caisson Disease. F. H. Rudge.
5 Three Successful Cases of Operation on the Labyrinth. S. R. Scott.
6 Twenty-Six Cases in which Both Eyes Were Operated on for Senile Cataract. A. C. Roper.
7 Compensatory Collateral Circulation with Caput Medusæ in Cirrhosis of Liver without Ascites. U. N. Brahmachari.
8 *Synchronous Movements of the Lower Eyelids with the Tongue and Lower Jaw, Observed in Certain Diseases; Sign of Disease in Connection with the Lower Eyelid. H. J. Robson.

1. Tuberculosis of the Genitourinary Organs.—Godlee's Bradshaw Lecture is a plea for conservatism in the surgery of tuberculosis of the genitourinary organs. He begins by pointing out that in the early seventies it was considered exceptional for patients with pulmonary tuberculosis to be cured, that disease being regarded as always fatal. At the same period it was obvious that a large number of tuberculous affections in other parts of the body, which were either imperfectly treated or not treated at all, had a natural tendency toward recovery. The modern student, however, is tempted, as the result of modern teaching, to overlook the fact that he often sees old cured tuberculous lesions in the postmortem room, evidences of long past acute tuberculous trouble in patients who have died from some totally different disorder. The modern teaching referred to is, that if there is one obvious tuberculous focus and no evidence of any other, it should be extirpated root and branch. Godlee then reports a number of cases of recent years of such affections as tuberculous epididymitis and tuberculosis of the kidney, bladder and testicle, in which local measures without any extensive operation restored health. He considers in detail tubercle of the adrenals, of the kidney, of the ureter, the bladder, the testicle and the urethra, and in regard to the kidney expresses himself as opposed to removing the obviously affected organ when it causes no symptoms, even if the evidence is against the presence of any disease in the other. In regard to tuberculosis of the bladder, he believes that the more cases of simple tuberculous cystitis are left alone the better the prognosis will be. He considers tuberculosis of the testicle usually a chronic disease, and states that even in most of those cases which appear to be acute or subacute a chronic enlargement has preceded; also that it is common for the second testicle ultimately to become affected whether the first has been removed or not. Consequently he has given up removing every tuberculous testicle, however quiescent, if no sign of the presence of tubercle is to be found elsewhere. He discusses Sir Almroth Wright's work in relation to this subject and criticises the attack on expectant treatment in Wright's lecture before the Harvey Society of New York, by asking whether it is such a rare thing for spinal caries to be cured by rest and fresh air, or a tuberculous knee or hip to get well under similar treatment; and in regard to genitourinary tuberculosis he refers in refutation to his present thesis.

2. Gastric Conditions in Infants.—Miller and Willcox, as the result of a series of investigations, find that differences exist in the gastric secretion in various cases of infantile wasting, and that these differences may be shown to correspond to three clinical groups: First, pure "marasmus," which they term a trophic dyspepsia; second, hypertrophic stenosis; and third, cases of pyloric spasm unaccompanied by hypertrophy, which they find to be acid dyspepsia. They conclude that in acid dyspepsia the importance of alkaline gastric lavage, together with the administration of alkalies, such as sodium citrate or bicarbonate, will be obvious. In regard to hypertrophic pyloric stenosis the best diet would be one of a non-coagulable nature, such as a whey and cream mixture, citrated milk, milk powders, or even milk treated with an antirennin preparation, such as might be made from the serum of goats which had been given repeated subcutaneous injections of rennin. They emphasize the importance of giving the smallest possible doses of food in marasmic conditions, for large amounts run the risk of setting up what may be a fatal diarrhea, and in hypertrophic pyloric stenosis a large vomit and death.

8. Synchronous Movements of the Tongue and Lower Eyelids.—Robson refers to a previous communication, in 1905, on a new sign of disease consisting of a slight eversion of the lower eyelids made evident on protrusion of the tongue or depression of the lower jaw, the lids resuming their normal shape when the tongue is retracted or the mouth shut. He draws the following general conclusions: 1. The phenomenon can not be detected unless it is especially looked for, because the tongue and eyes are not inspected at one and the same time unless the observer is on the alert for this movement of the eyelids; and this, Robson thinks, is one of the main reasons why the sign has hitherto not received any notice. 2. It should always put the medical man on his guard whether he is treating an acute case for some urgent symptoms or examining a patient for life insurance; as whenever the phenomenon is present in chronic cases—judging from experience—some severe asthenic condition will be found to exist, or it will be found that the patient has been a martyr to pain for many years. 3. From observations made in a few cases he has noticed that the phenomenon for a time almost disappears after the tongue has been protruded several times, and also after stroking the forehead or touching the lower eyelid. 4. In all the patients observed except one it was present in both eyes. 5. In three of the patients the phenomenon disappeared as they convalesced

from their maladies. 6. In two of the patients, though formerly the phenomenon was present in a very marked degree, it is now nearly absent and the patients are both in much better health than when Robson first saw them. 7. In two acute cases in which the phenomenon was observed, it disappeared when the urgent symptoms had passed off. 8. As regards chronic cases, the patients who have presented this phenomenon in Robson's practice have been affected with various cardiac and abdominal diseases, and two of them had suffered from very severe headaches for many years in consequence of uncorrected astigmatism. 9. The phenomenon is never present in health. It comes and goes with the onset and cure of disease, as proved in five of his cases, and therefore he thinks that it is a clear index or sign of disease.

British Medical Journal, London.

December 14.

9 *Prognosis in Relation to Treatment of Tuberculosis of the Genitourinary Organs. R. J. Godlee.
10 Nephropexy. B. Pollard.
11 Pericolitis Sinistra with Abscess Formation: Recovery. R. Donaldson.
12 *Part Played by Pediculus Corporis in the Transmission of Relapsing Fever. F. P. Mackie.
13 *Possible Explanation of Late Return Cases in Scarlet Fever. W. Habgood.
14 Strangulation of Small Intestine Through Rent in Mesentery. C. E. Bell.
15 Treatment of Scabies. F. J. W. Porter.
16 Ptomain Poisoning from Mutton, with Marked Bradycardia. M. Bryson.
17 Case of Ruptured Tunica Vaginalis. L. Fraser.
18 Large Fatty Liver in Infant. Sudden Death. T. R. Atkinson.

9. See Abstract No. 1.

12. **Pediculus Corporis and Relapsing Fever.**—Mackie describes an epidemic of relapsing fever which broke out in a mixed settlement of boys and girls living under similar conditions, but inhabiting different buildings. A very high percentage of the boys fell victims to the disease in the course of a few weeks, while a much smaller percentage of girls fell ill, and that in frequent intervals extending over three months. The most notable factor in which the boys differed from the girls was that the boys were infested with body lice, from which parasite the girls were almost free. A well-marked percentage of the lice taken from the infected (boys') ward contained living and multiplying spirilla. The stomach of the louse was the chief seat of multiplication, and this was carried on in the face of active digestion and after the disappearance of all other cellular elements. Other organs became secondarily infected. The secretion from the mouth of infected lice contained great numbers of living spirilla, and they also existed in great or less numbers in the upper alimentary tract. The ovary was frequently infected, but spirilla were not found in deposited ova. With the increase of the epidemic among girls, body lice became more in evidence, while, with the subsidence of the epidemic among the boys the percentage of infected lice fell. An attempt to infect a monkey by means of lice failed. Mackie considers the above facts sufficient to throw grave suspicion on the body louse as a transmitter of relapsing fever. In support of this view, he points out that relapsing fever has always been associated with poverty-stricken, overcrowded and half-starved communities, and that in mixed communities the disease seems to single out principally the poor and dirty.

13. **Return Cases in Scarlet Fever.**—Habgood points out that of recent years it has been recognized that when "return cases" of scarlet fever occur, the discharged patient will be found to have some purulent or mucopurulent discharge. He thinks that many patients, when sent out free from any nasal discharge, may not at the time be infectious, but that the occurrence of an ordinary attack of nasal catarrh may renew the activity of a few quiescent scarlet fever germs.

Medical Press and Circular, London.

December 11.

19 Otosclerosis. M. Yearsley.
20 Color of Mucous Membranes as Guide to Condition of Blood and as an Index of the Nutrition of the Body. A. Haig.
21 Diphtheria and Schools. J. Niven.
22 *Action of Certain Salts of Formic Acid on the Circulatory and Muscular Systems. A. Goodall and I. Mitchell.

22. **Formic Acid Salts.**—Goodall and Mitchell conclude, as the result of their investigations, that formates are almost useless drugs; in all probability they are rapidly converted into carbonates in the tissues. Sodium formate is practically inert. Calcium formate may find a sphere of usefulness as a readily absorbed and not unpleasant calcium salt, and be given in cases of hemorrhage, such as hemophilia, in which the action of the Ca ion is desired.

Journal of Obstetrics and Gynecology of the British Empire, London.

November.

23 *Cesarean Section Successfully Performed for the Fourth Time on the Same Woman, with Remarks on the Production of Utero-parietal Adhesions. W. Sinclair.
24 Suppuration of the Ovary. J. Oliver.
25 *Typhoid Infection of Ovarian Cysts. F. E. Taylor.
26 Cesarean Hysterectomy for Traumatic Atresia of Vagina, the Patient Having Previously Undergone a Successful Operation for a Vesicovaginal Fistula Due to the Same Injury. A. Routh.
27 Case in Which Ligature of Fallopian Tubes Failed to Effect Sterilization. G. A. Casalis.

23. **Cesarean Section.**—Sinclair reports four operations for Cesarean section in one patient, a woman with marked lordosis, contracted pelvis and ankylosis of the left hip. He agrees with Wallace that all Cesarean sections should be performed with a view to ulterior pregnancy. Extirpation of the merely septic uterus has almost disappeared from the category of justifiable operations. Sinclair thinks that sterilization and hysterectomy are rapidly following it into the limbo of deplorable episodes in the history of obstetrics and gynecology. He prefers to begin operating before the onset of labor pains. He considers the formation of adhesions, the site of incision, the suture material, and the fear of rupture of the uterus, the intentional production of adhesions between the uterus and the abdominal parietes with a view to facilitating subsequent operation, and describes the technic of the operation.

25. **Typhoid Infection of Ovarian Cysts.**—Taylor describes a case in which a bacillus was obtained in pure culture from the pus of a suppurating ovarian cyst eight months after an attack of typhoid. This bacillus, from a comprehensive study of its morphologic, tinctorial, cultural and serum agglutinating properties, was definitely proved to be the *Bacillus typhosus*. Further, the agglutinating power of the patient's serum with typhoid bacilli proves that the febrile illness from which the patient had suffered really was typhoid fever. He describes and tabulates the twelve preceding recorded cases, and concludes that the metastatic transference of the bacilli to various regions and organs of the body and the occurrence therein of post-typhoid suppuration is not difficult to explain in the light of the exhaustive research on the bacteriology of the blood in typhoid fever by Coleman and Buxton, published in the *American Journal of Medical Sciences*, 1907, page 896.

Annals of Tropical Medicine and Parasitology, Liverpool.

November.

28 Certain Parasitic Protozoa Observed in Africa. J. E. Dutton, J. L. Todd and E. N. Tobey.
29 *Yaws. C. W. Branch.
30 Description of Some Gold Coast Entomostraca. W. M. Graham.
31 Notes on Dr. Graham's Collection of Cyclopidæ from the African Gold Coast. G. S. Brady.
32 Morphology and Life History of Spirochæta Duttoni. A. Breinhl.
33 Cytology of the Trypanosomes. J. E. Salvin-Moore.

29. **Yaws.**—Branch discusses the relations of syphilis and yaws and gives some reasons why the identity of the two diseases has not been more extensively recognized. The extreme prevalence of syphilis in the West Indies is shown by the hospital experience and the mortality experience. In St. Vincent he finds that 19 per cent. of the admissions to hospital are for syphilis, and that syphilis is responsible for 14 per cent. of the deaths in the colony. In striking contrast with the large number of syphilitic cases is the small number of patients with primary venereal sores who apply for treatment. He believes that this is due to the fact that there is a large amount of non-venereal contagion in which the primary chancre is not recognized. In many of these cases the early cutaneous symptoms have taken the form of the frambesial eruption of yaws. This is so much the case that several authors have described tertiary symptoms attributed to yaws which were indistinguishable from the similar symptoms of syphilis. That a

primary sore may precede the frambesial eruption is also recognized by authors who have treated yaws. The association of yaws with syphilis is recognized by the natives who do not confine the term yaws to the frambesial eruption and attribute symptoms evidently syphilitic to a previous yaws. The view that yaws is represented only by the frambesial eruption and is an independent disease of comparatively little importance has led to its going practically untreated in a large number of cases and may account for the relatively greater prevalence of tertiary than of primary syphilis. Branch discusses the attitude of the medical profession to the question of the relation of yaws and syphilis and shows that the objections made by Manson that the primary sore, infection of the fetus, adenitis, affection of the permanent teeth, exanthem, alopecia, absence of itching, iritis, bone and eye affections, congenital lesions, polymorphism or eruptions, nerve lesions, and gummata of syphilis are wanting in yaws, is not well founded, as most of these conditions are found in yaws or are very rare in cases of syphilis in negroes. It is only in the frambesial eruption that yaws differs from syphilis and even the frambesia is identical with the syphilitic papilloma on a moist surface. The difference between yaws and syphilis is only in the frequency of occurrence of this eruption. Syphilis as yaws is almost general in tropical countries wherever the conditions of damp, heat and dense vegetation obtain. The suggestion of Hutchinson that yaws is the original disease among peoples inhabiting tropical countries, from whom it spreads to the European races as syphilis, taking a different form in the colder climate is not fully approved by Branch. Branch finds intramuscular injection of soluble mercuric salts the best method of treating both syphilis and yaws among the negroes. In the local treatment of yaws he has had the best results from a paint of zinc oxid and calamin. This coats the lesions so that the secretions can not well become the source of infection.

Clinical Journal, London.

December 11.

34 Brachial Neuritis and Occupation Neuroses. T. D. Savill.
35 Position, Deformities and Injuries of Foot Due to High Heels. E. M. Corner.
36 Scarlatinal Otitis. K. Gordon.

British Journal of Children's Diseases, London.

November.

37 Clinical Aspects of Lymphosarcoma in Children. D. M. Greig.
38 *Cerebrospinal Meningitis. E. Cautley.
39 Case of Pneumococcal Infection of Serous Membranes. H. S. Clogg.

38. **Meningitis.**—Cautley divides the various forms of meningitis on a bacteriologic basis: 1, Tuberculous; 2, septic (pneumococcus, streptococcus, staphylococcus, etc.); 3, cerebrospinal, epidemic or sporadic, or of the type known under the names of post-basic, simple posterior, basal of infants, chronic basilar, or cervical opisthotonos of infants. He forms his conclusions from 125 cases, in most of which the diagnosis was confirmed by the results of lumbar puncture during life or postmortem. Cases developing from influenza or other diseases are omitted. He thinks ear disease by no means so frequent a cause of meningitis in early life as is commonly supposed. The presence of the pneumococcus in middle-ear discharge does not prove the meningitis to be secondary to the ear trouble; often it arises from the same origin as the meningitis or by extension from it. We may conclude that meningitis during the first six months of life is most commonly non-tuberculous; in the second six months it is non-tuberculous in about two-thirds of the cases; and after the first year the tubercle bacillus is by far the most common cause. The seasonal incidence of tuberculous meningitis is about the same in all seasons of the year. Pneumococcal meningitis is fairly common in infancy. It is usually secondary to bronchitis and other lung diseases and to acute pneumococcal endocarditis. Streptococcal meningitis is usually due to ear disease or pyemic affections. Cerebrospinal meningitis is most common in early life and appears in two distinct forms, the toxemic and the meningitic. The first is the "spotted fever." The symptoms are those of profound blood poisoning. The meningitic type of the epidemic variety is clinically similar to the ordinary post-basic meningitis in course, complications and sequelæ, and pathologically. The only distinction between them lies in the epidemic character and virulence. There is little proof that the epidemic variety is spread by direct infection. Several members of a household may be attacked, but it is obvious that they are living under similar conditions. He describes the three stages, respectively of congestion, exudation and effusion, and the symptoms—headache, rigidity of the neck muscles, conjunctivitis, Kernig's sign, if the inflammation has spread down the cord, vomiting, the pulse and respiratory and temperature conditions—and states that lumbar puncture may yield evidence of absolute diagnostic certainty. In tuberculous meningitis the cerebrospinal fluid is clear and may contain an excess of lymphocytes and perhaps tubercle bacilli. In cerebrospinal meningitis it is likely to be cloudy and to contain an excess of polymorphonuclear cells and the meningococcus. In the hydrocephalic stage the fluid may be indistinguishable from that of the tuberculous disease. As to treatment, in the cerebrospinal variety, the nose must be kept disinfected. Serum treatment has proven unsatisfactory. Careful feeding and nursing are essential. Cold to the head and hot baths afford relief from convulsions, extreme opisthotonos and hyperesthesia. Small doses of coal-tar derivatives and opium are useful; quiet and rest are imperative. The removal of fluid by lumbar puncture is distinctly beneficial when there is intracranial pressure. Vaccine treatment has not been adequately tried.

Bulletin de l'Académie de Médecine, Paris.

November 26, LXXI, No. 40, pp. 382-400.

41 Dystrophy of Venous System in Inherited Syphilis. A. Fournier.
42 *"Medical Tetanus." Predisposing Influence of Liver Affections. H. Vincent.

42. **Spontaneous Tetanus.**—Vincent reiterates that the intervention of the tetanus germ is as evident in medical as in traumatic tetanus, and that hyperthermia, sunstroke or any cause lowering the resisting powers favors its development in a tetanus spore carrier. His experimental research has shown that liver affections have an unusually marked predisposing influence on the appearance of this form of tetanus. His research has confirmed the deleterious influence of lesions of the liver on the defensive forces of the organism, both cellular and humoral, weakening them until they are unable longer to oppose successful resistance to invading germs. The seed of tetanus germinates readily in individuals with cirrhosis of the liver or any other latent or declared liver affection.

Presse Médicale, Paris.

November 30, XV, No. 97, pp. 777-784.

43 Deviation of Complement in the Streptococcus in Scarlet Fever. (La réaction de Bordet et Gengou vis-à-vis du streptocoque dans la scarlatine.) C. Foix and E. Malleln.
44 Efficacy of Faradization of Chest in Chloroform Syncope. J. M. Villette.

December 4, No. 98, pp. 785-796.

45 *Clinical Examination of the Neck. (Formes extérieures du cou.) P. Desfosses.
46 Treatment of Delirium Tremens. Legrain.

45. **Clinical Examination of Neck.**—Desfosses' article has sixteen illustrations.

Revue de Gynécologie, Paris.

October, XI, No. 5, pp. 755-960.

47 *Chorioepithelioмas of the Genital Glands and Especially of the Ovary. E. Forgue and G. Massabuau.
48 *Anatomy of the Kidney Pelvis and Surgical Exploration of the Kidney. (Anatomie du bassinet et exploration sanglante du rein.) J. Albarran and E. Papin.
49 *Primary Cancers of the Appendix. M. Letulle.

47. **Chorioepitheliomas of the Genital Glands.**—Two cases are reported in detail and 116 from the literature are summarized and compared for study of the origin of these tumors.

48. **Anatomy of the Kidney Pelvis.**—Albarran and Papin illustrate with several colored plates their findings in regard to the anatomy of the kidney pelvis and the technic for exploration of the organ. The capacity of the pelvis varied from 6 to 28 c.c. in twelve specimens examined.

49. **Primary Cancer of the Appendix.**—Letulle reported in 1897 the first case of this kind observed in France, and has since encountered 10 more cases. They are reported in detail with illustrations, and he urges microscopic examination of every appendix removed for any cause. A zone of induration, especially at the tip, should be regarded as suspicious of a can-

cerous or tuberculous process. In nearly every instance known, primary cancer of the appendix was consecutive to an obliterating appendicitis of more or less prolonged standing.

Semaine Médicale, Paris.

December 4, XXVII, No. 49, pp. 577-588.

50 *Management of a Private Obstetric Case. (Comment il faut s'y prendre dans la pratique courante de l'accouchement.) R. de Bovis.
51 *Roentgen Rays an Etiologic Factor in Cancer.

50. **Management of an Obstetric Case.**—De Bovis insists that every childbirth is a surgical affair and should be treated on the same principles as any surgical operation. Nature is such a kind mother that infection of the obstetric wound is a rare exception, yet the danger is always there, and he outlines some simple measures by which it can be warded off. Mechanical asepsis should be the main reliance, washing the hands under boiled water running from a fountain syringe, or rinsing off with the same the field of operation. Antiseptics may be used, but not until after the parts have been cleansed with soap and running water. He thinks that ordinary wood alcohol can be depended on as much as mercury bichlorid—in the obstetrical dosage—and it is obtained so easily that he advises it for dipping the fingers and instruments, etc., in the place of more expensive and less readily obtained antiseptics. He urges the use of rubber gloves—not necessarily for examining or operating—but for all the rest of the time. If they become soiled they can be easily rinsed. He warns against wiping off the amniotic fluid on the vulva; Nature keeps it there to protect the tissues against lacerations. He adds that he is trying to impress on his readers the worship of cleanliness and to free them from the yoke of the prevailing superstition in regard to antisepsis, while extolling the superiority of mechanical agents of disinfection. In obstetrics, he reiterates, "bichlorid isn't everything; it does not relieve the physician from the necessity for being clean."

51. **Cancer from Roentgen Exposures.**—After reviewing the history of this subject and the experiences in France, the editorial warns that small doses frequently repeated seem to be more dangerous in respect to the development of cancer from Roentgen exposures than a few prolonged sittings. Another practical conclusion is that Roentgen treatment seems to be contraindicated in case of affections which already display a predisposing tendency to malignant degeneration. Also that an *x*-ray burn resisting treatment should be excised early.

Beiträge zur klinischen Chirurgie, Tübingen.

October, LV, No. 3, pp. 619-793.

52 *Tumors of the Soft Parts over the Alveolar Process of the Jaw, and Results of Treatment. (Epulis und Resultate ihrer Behandlung.) R. Kühner.
53 Firearm Wounds. (Schussverletzungen.) R. Bestelmeyer.
54 *Serum Treatment of Tetanus. M. Hofmann.
55 Nephrectomy for Hydronephrosis. K. Fischer.
56 Nephrolithotomy and Plastic Operation on Ureter for Hydronephrotic Stone Kidney. Id.
57 *Triangular Support for Ambulant Extension Treatment of Fractures of Upper Arm. (Das v. Hacker'sche Trianel für Oberarmbrüche.) E. Streissler.
58 Treatment of Talipes Equino-varus by Excision of Wedge from Tarsus. F. Dieffenbach.
59 Hacker's Modification of Heidenhain's Technic for Hemostasis in Operations on the Skull. (Blutstillung bei Trepanationen, etc.) J. Pollak.

52. **Tumors of Jaw.**—Kühner refers in particular to the giant-celled sarcoma which is the most frequent variety of tumor developing in the soft parts over the alveolar process of the maxillary bone. Although histologically malignant yet its clinical course is mild. In 90 cases at the Tübingen clinic the majority were observed between the ages of 10 and 40, and two-thirds of the patients were women, as also in 139 cases he has found on record. The after-history is known of 79 patients whose tumor was removed during the last 35 years; 72 were found permanently cured. Two patients died from recurrence, but the others were all permanently cured after removal of a recurrence, so that 77 of the 79 patients are still in good health.

54. **Serum Treatment of Tetanus.**—Hofmann reports 30 cases of tetanus in which the patients were treated with antitetanus serum. It was given by subcutaneous injections alone in 13 cases with 53.8 per cent. mortality, but only 2 of the patients died in the 16 cases in which the serum was injected into the dural sac by lumbar puncture. Endoneural injections were also made in 3 cases. The endoneural route has certainly an excellent experimental basis, but not much clinical experience to sustain it. His series of 16 patients treated by dural infusion of the serum included a number of extremely severe cases, with brief incubation. One patient had recovered from the tetanus, but fatal pneumonia developed, and another patient was extremely debilitated from amputation of the arm on account of sarcoma; he would probably have succumbed even without the tetanus. Excluding these cases leaves an unbroken series of 14 patients with severe tetanus all recovering under subcutaneous and subdural infusion of antitetanus serum. The benefit from the serum became only gradually apparent, but was progressive and permanent. In a few cases the temperature rose for a day or so after the dural infusion, but no ill consequences were observed from this temperature and the headache soon subsided. In 2 cases an extensive and obstinate exanthem developed over the entire body, as also after the subcutaneous injections in some cases. Another patient had cramp-like pains persisting even after the subsidence of the tetanus, but then rapidly subsiding. No tardy by-effects were observed in any case except that one patient has had headache occasionally during the year since, while she never had known headache before. No macroscopic changes could be discovered in the meninges in the fatal cases. He remarks in conclusion that dural infusion of antitetanus serum seems to be amply justified theoretically, and that his favorable experiences certainly encourage its further use. It is still a question whether or not the cerebrospinal fluid contains tetanus toxin. Certain experiences that have been reported seem to indicate this, and until the matter is decided he thinks that it would be better to abstain from using this fluid to dilute the antitetanus serum. When a patient is brought to the clinic with traumatic tetanus, the fingers, toes or frozen members—the seat of the injury—are amputated, although the clinic is extremely conservative under other circumstances. After an injection of morphin or under local anesthesia alone, lumbar puncture is done and a considerable amount of cerebrospinal fluid is allowed to escape. Then 20 c.c. of fluid antitoxin are slowly injected into the dural sac—half this amount in case of a child. The patient also receives a subcutaneous or endoneural injection of the serum, in the vicinity of the injury. The subcutaneous injection is repeated daily and the dural infusion every two or three days until improvement is apparent. If the wound requires it, spinal anesthesia can follow the dural infusion at once. In future he intends to apply the antitoxin also directly to the wound. The patient is kept in a quiet, darkened room and, in case the convulsions are very severe, morphin is injected or from 5 to 10 gm. of chloral are given by the rectum. Only fluid food is allowed and alimentary enemas are given in case of difficulty in swallowing. Baths are not given until a later stage, but sweating was induced in some cases and seemed to have a favorable influence on the tetanus.

57. **Triangle for Extension of Fractured Arm.**—It is said that remarkably prompt and correct healing has been obtained in case of fracture of the upper arm by the use of the triangle splint devised by von Hacker of Gratz. A long straight strip of strong paper board, about as wide as the arm, is marked off with the distance from the crest of the ilium to the axilla, then the distance from the axilla to the bend of the elbow, and then the distance from the elbow to the roots of the fingers. A wedge-shaped incision is then made across the splint where the first division was marked off, and another at the second division. The first incision cuts straight across the splint, but the second is diagonal. The splint is then bent at the cut lines to form a triangle with the straight sides of the triangle projecting somewhat, the whole thus assuming somewhat the shape of a figure four (4). The straight back rests against the side of the patient, reaching from ilium to axilla. The fractured upper arm rests on the hypothenuse of the triangle, and the forearm beneath the base of the triangle and its extension. The straight side of the triangle fits into a slit cut part way across the extended base of the triangle. The fracture is reduced and the splint is then fitted in place between the axilla and flexed elbow and the forearm is stretched along under the base of the triangle, the fingers reaching only a little beyond

V 50
1908

the median line, near the umbilicus. Bandages are then wound around the arm and splint and around the body, immobilizing arm, shoulder and elbow, leaving only the thumb and fingers free.

Deutsche medizinische Wochenschrift, Berlin.

December 5, XXXIII, No. 49, pp. 2025-2072.

60 Recent Research on Morphology and Origin of Tumors. (Morphologie und Entstehung der Geschwülste.) E. Schwalbe.
61 Deviation of Complement. (Zur Frage der Komplementablenkung.) Haendel.
62 *Injury of Optic Nerve from Atoxyl. (Sehnervenerkrankung durch Atoxyl.) Fehr.
63 Improved Technic for Correction of Noses Planted Awry. (Korrektur der Schiefnase.) J. Joseph.
64 When is the Radical Operation on Nasal Accessory Sinuses Necessary? (Wann ist die Radikaloperation der Nebenhöhlen der Nase notwendig?) W. Lublinski.
65 *Physiology of the Tonsils and the Indications for Their Removal. E. Barth.
66 Retrobulbar Teratoid Tumor Removed from Adult with Retention of Eyeball. (Kroenleinsche Operation.) O. Rothschild.
67 Breaking of Cannula During Lumbar Puncture. K. Torkel.
68 *Benefit of Bier's Constriction Hyperemia for Burns. (Anwendung Bierscher Stauung bei Verbrennung.) Stein.

62. **Injury of Optic Nerve from Atoxyl.**—Fehr reports two cases of visual disturbances under administration of atoxyl, similar to the two cases reported by Bornemann and von Krüdener. As the vision became reduced, the center of the visual field was comparatively undisturbed, but the field on the side toward the nose was restricted. The entire sheath of the optic nerve was blanched and the retinal arteries were contracted, but the pupillary reactions remained normal. In his two patients suspension of the drug was followed by restoration of sight, with no further trouble during the two years since, but in the two other cases the blindness persisted. Lesser and Greef have further reported two cases of transient blindness from the use of atoxyl, retrogressing on its suspension. [Koch had 22 cases of blindness in his experience with atoxyl treatment of sleeping sickness, but all were under higher dosage than he now advocates.]

65. **Physiology of the Tonsils and Indications for Their Removal.**—Barth concludes his study of the anatomy and physiology of the tonsils with the statement that all the testimony seems to point to a current of lymph and secretion in the tonsils flowing outward—an emigrating stream of lymphocytes pouring forth. The germs found in the normal tonsils are on their way outward, he says, not from without inward. He considers the tonsils extremely important aids in the elimination of toxic substances and bacteria circulating in the body fluids. When the normal tonsil becomes inflamed the probabilities are that the infection has arrived from the interior; he cites several instructive instances where this was beyond question, as also a number of experiments in this line. Consequently he advises against removing the sound tonsils which serve such a useful purpose in elimination. Of course, if any of the tonsil tissue becomes necrotic or if there is abscess formation, then the normal outward flow is arrested and infection from without is liable. In this case it is wise to remove or cauterize the tonsils, as also when they are enlarged to an extent as to interfere with breathing. Hypertrophy merely testifies to excessive functioning if the tonsil is sound.

68. **Constriction Hyperemia for Burns.**—Stein has found that the pain of a burn can be materially relieved or entirely abolished by applying a constricting band above. A string around the root of the finger will answer the purpose when the burn is on the finger. He keeps loosening the constricting band, until finally he is able to remove it altogether without return of the pain. It is his impression that the cicatricial shriveling was not so severe in the cases in which this constriction had been applied. He advises keeping up the constriction for burns of the second and third degree not only to relieve the pain but to promote healing, applying the band for ten, twenty or thirty minutes, morning and afternoon.

Deutsche Zeitschrift für Chirurgie, Leipsic.

XC, Nos. 4-6, pp. 289-608.

69 *Case of Acquired Displacement of Kidney with Hydronephrosis. (Nierendystopie.) H. Schaad.
70 Acquired Atresia of the Intestines. A. Jenckel.
71 Prognosis and Technic of Gastroenterostomy. Helferich.
72 *Surgery of Non-malignant Stomach Affections. (Chirurgie der gutartigen Magenerkrankungen.) P. Graf.
73 *Operative Treatment of Dilatation of the Large Intestine. (Operative Behandlung der Hirschsprungschen Krankheit.) H. Ito and Y. Soyesima.
74 Bone Formation in Human Penis. (Sogen. Penisknochen.) P. Frangenheim.
75 Pathology of Deposits of Fat Tissue in the Knee. (Fettgewebs-Wucherungen im Kniegelenk.) H. Lohrer.
76 *Chronic Cystic Mastitis. F. Lichtenhahn.
77 *Etiology of Retention of Testicles. (Hodenretention.) K. Budinger.
78 *Spinal Anesthesia at the Moabite Hospital at Berlin. (Lumbalanästhesie in 875 Fällen.) Oelsner.
79 Extensive Resections of Tarsus and Metatarsus. Budde.

69. **Acquired Displacement of the Kidney and Hydronephrosis.**—Schaad's patient was a clerk of 17, previously healthy, who was suddenly seized with intense abdominal pain, and was sent to the hospital at once, on the supposition of appendicitis. He was supposed to have had two attacks of appendicitis years before, but the discovery of hydronephrosis in a misplaced and fastened kidney threw light on the previous illnesses which must have been of the same character. The first had followed a fall in which the kidney had probably become displaced, adhesions later fastening it in this abnormal position. The walls of the kidney pelvis were so thin from the distension that recuperation did not seem possible and the kidney was removed. Convalescence was disturbed by an infectious tonsillitis followed in a few days by signs of acute nephritis in the remaining kidney. Under medical treatment the nephritis subsided, and the young man has resumed his duties as clerk. The subject of displaced and firmly anchored kidneys is discussed in detail, and the various forms of congenital and acquired displacement are classified.

72. **Surgery of Non-Malignant Stomach Affections.**—Graf devotes nearly 100 pages to discussion of the end results in 95 cases of various non-cancerous gastric affections treated by surgical intervention at Kiel. One-third of the patients were in the fifties, and there were nearly twice as many women as men. There was no mortality from gastroenterostomy for the gastric affections without an open ulcer, but an open pyloric ulcer and ulcer of the fundus without stenosis showed a low mortality. The end results were excellent in four-fifths of the cases of simple motor disturbances—ptosis or atony—also in three-fourths of the patients with cicatricial pyloric stenosis, and in two-thirds of those with pyloric ulcer and in one-half of those with ulcer without stenosis. The later disturbances observed in some cases were caused by pains, hemorrhage or perforation of an unhealed ulcer, by stenosis of the anastomosis, perigastric adhesions or by combination of gastric symptoms with constitutional disease. The gastroenterostomy improved the motor function, generally restoring it to normal and reducing the acidity of the gastric juice. It is generally followed by partial subsidence of the dilated stomach. Jejunostomy is unreliable, he asserts, and resection of the ulcer showed considerable mortality and unreliable end results. It is positively indicated in suspicion of cancer and perforated ulcer and relatively indicated in bleeding ulcer. In absolute and relative stenosis of the pylorus, waiting is not directly dangerous, but continuance of lavage for months or years is an unnecessary torment for the patient, considering the excellent prognosis of gastroenterostomy, especially in such cases. In case of a firm, pressure-resisting ulcer, showing no tendency to stenosis, the danger of hemorrhage and perforation is so imminent that waiting is perilous. Hence operation should be proposed after the failure of several courses of medical and rest treatment. Those who die in these cases die in consequence of the ulcer, not of the operation. The results to date show 50 per cent. cured. In conclusion he advocates gastroenterostomy as the routine procedure for ptosis and atony instead of ventrofixation or plication alone, that is, fastening the stomach or taking up a fold in it.

73. **Operative Treatment of Hirschsprung's Disease.**—Ito and Soyesima report a case of obstipation and enlargement of the abdomen accompanied by fecal incontinence at night. The patient was a boy of 14 and the operation disclosed a probably congenital giant colon. They review 204 articles that have been published on the subject in various lands, their conclusion being that partial exclusion of the intestine is the best method of treating such cases that fail to yield to internal treatment and in which there is no mechanical obstruction. Resection is much

more serious and the lesser operation may accomplish the desired purpose, as in the case reported in which the patient was cured by incomplete exclusion of the entire colon. Pseudomegacolon is liable to correct itself in later life, so that operative treatment should not be applied without consideration of this fact.

76. **Chronic Cystic Mastitis.**—Lichtenhahn reports five cases of this affection and warns of the liability of cancerous degeneration. His patients were all between 40 and 50; two were virgins.

77. **Etiology of Retention of the Testicles.**—Budinger remarks that retention may be due to internal displacement, to anomalies in the genital apparatus or to cicatricial changes and adhesions in the abdomen, left from preceding inflammation. The testicle itself is not involved in these adhesions, as a rule, but the changes in the region interpose mechanical obstacles to the descent of the testicle.

78. **Spinal Anesthesia.**—Oelsner states that Sonnenburg has been using spinal anesthesia since 1904 and has now a record of 875 cases in which it was appplied. The analgesia did not appear in 54 cases, and slight to moderate collapse was observed in a number. The passage of flatus and stools under the influence of the spinal anesthesia was often of direct therapeutic value. This was observed especially in cases of incarcerated hernia after the intestine had been freed from the constriction, and also in cases of acute appendicitis with atony of the bowel. The contemplated operation was rendered unnecessary for two patients presenting symptoms of ileus by this by-effect of the injection. One fatality was observed, for which the method, however, can not be held responsible. In many instances depression, nausea, vomiting and headache were observed as after general anesthesia, the headache lasting in a few cases for days and weeks. Severe collapse was observed in 6 cases, and one patient with ruptured tubal pregnancy succumbed in collapse after eight hours. Abducent paralysis occurred in 3 cases and paralysis of the facial and hypoglossal nerves in another, the paralysis coming on the tenth and third days or after six weeks. The paralysis spontaneously subsided in time, but in 3 cases fatal ascending suppurative meningitis developed. In two of these the operation was for relief of a pyemic or septic process, and the spinal anesthesia may have produced a point of lessened resistance where the germs circulating in the blood settled. In the third case a healthy man of 20, from a healthy family, was operated on for removal of hemorrhoids under spinal anesthesia with stovain-adrenalin. There were no by-effects at first, but then the temperature rose, headache followed, and the patient died on the fourth day of a meningococcus meningitis. This patient must have been a healthy, unsuspected meningococcus carrier, as no possible source of the infection otherwise could be surmised. Forty-seven out of 60 patients examined showed evidences of nephritis, but it soon subsided and no after-effects could be discovered. Spinal anesthesia is used at the clinic principally for operations below the costal arch, as no attempt is made to extend the analgesia higher by raising the pelvis or similar measures. Its main sphere is for chronic intestinal affections. General septic processes are now regarded as contraindications, although in dubious cases the absence of microbes from the circulating blood allows this form of anesthesia to be used in cases of acute osteomyelitis of the legs. Collapse from internal hemorrhage or other cause is also regarded as a strict contraindication. The spinal anesthesia was used in 6 diabetics with excellent results. The experience of others was also confirmed in regard to the fine way in which elderly persons tolerate spinal anesthesia. Its ill effects are undoubtedly due to the toxic nature of the substances used. Oelsner is now experimenting with saline solution at different temperatures. Chilled saline solution injected for spinal anesthesia in animals is giving promising results. He mentions that there are now 32 cases of paralysis following spinal anesthesia on record, but not permanent in any instance.

Monatsschrift für Geb. und Gynäkologie, Berlin.

November, XXVI, No. 5, pp. 645-778.

80 *Etiology and Treatment of Dysmenorrhea. F. Kermauner.
81 Rarer Forms of Genital Tuberculosis in the Female. P. Kroemer.
82 *Postoperative Mesenteric Occlusion of Duodenum. (Postoperative mesenterialer Duodenalverschluss.) H. Albrecht.
83 Experiences with Spinal Anesthesia for Gynecologic Operations. (Lumbalanästhesie bei gynäkologischer Operation.) F. Brunner.
84 Action of Preparations of Hydrastis and Cotarnin on the Uterus and Blood Pressure. E. Kehrer.

80. **Dysmenorrhea.**—Kermauner concludes his article with the statement that there has been no notable progress in the treatment of dysmenorrhea during the last thirty years unless we accept as such the more rational general treatment which is now instituted, as a rule, and the greater number of drugs now at our disposal for symptomatic treatment. Unmistakable practical benefit is sometimes realized from various measures. Among these he mentions dilatation of the cervix with an instrument or tent, introduction of a uterine sound, removal of the ovaries in case they are much enlarged and the uterus is malformed, cocainization of points in the nose, etc. The dysmenorrhea is frequently favorably influenced by considerable exercise before the period, running, gymnastics, etc., with complete repose during the period. He quotes Connel's remark that bicycling has effected a cure in more cases of dysmenorrhea than any other measure. Kermauner regards congenital retroflexion as a negative finding.

82. **Postoperative Mesenteric Occlusion of the Small Intestine.**—Albrecht reports a case of "arterio-mesenteric occlusion" that terminated in recovery. The trouble is constriction of the duodenum at its union with the jejunum by the taut root of the mesentery. The symptoms are those of ileus in general. The uncontrollable vomiting soon brings pure bile, and the vomiting recurs with tormenting regularity and comes in a gush. There is never a fecal odor to the vomit. The vomited fluid consists mainly of bile with transudation from the stomach wall, and with pancreatic juice. The patients complain of violent oppression and pain in the epigastrium with extreme thirst. The pulse rate is much accelerated, but the temperature does not rise at first. The stomach region is distended while the rest of the abdomen is soft and relaxed. Examination of the urine will exclude uremia. Clay-colored stools are an important sign of the obstruction if the bowels move, also the signs of dilatation of the stomach. The first indication, he says, is always for lavage of the stomach, as in every case of persistent vomiting. The patient should then lie prone, thus changing the position of the duodenum, or even assume the knee-elbow posture to reduce the pressure from the stomach. Binswanger recommends in addition bimanual taxis through the rectum or vagina to aid in pushing the loops of the small intestine up out of the small pelvis. In Müller's case the patient was relieved at once by lying on his abdomen, which position he retained for twenty-four hours without injury. The results of this posture in the fourteen cases that have been published have always been striking. The vomiting ceased almost immediately; flatus passed, stool followed and the subjective findings were much improved. In case vomiting recurs, Albrecht advises changing from the abdominal to the knee-elbow position several times. The pulse is liable to remain high for some days, probably from irritation of the sympathetic nerve. The prognosis depends entirely on the early diagnosis. In prophylaxis he advises restriction of intake of fluids by mouth as predisposing to the development of the mesenteric occlusion. In case of prolonged operations he advises spinal instead of general anesthesia, and adds that fixation of the flexure would probably avert all trouble from this source.

Münchener medizinische Wochenschrift.

December 3, LIV, No. 49, pp. 2409-2464.

85 *Artificial Pneumothorax in Tuberculosis, Bronchiectasis and Inspiration Affections. A. Schmidt.
86 *Minimal Physiologic Demand for Albumin. (Zur Frage des kleinsten Eiweissbedarfes.) J. Forster.
87 Passive Supersensitiveness to Injection of Toxins. (Passive Ueberempfindlichkeit.) U. Friedemann.
88 Hemorrhage Into the Fatty Capsule of Kidney. (Apoplexie des Nierenlagers.) Doll.
89 *Serum Treatment of Epidemic Cerebrospinal Meningitis. M. Többen.
90 *General Anesthesia with Ethyl Chlorid. (3,000 Aethylchlorid-Narkosen.) Herrenknecht.
91 The Term "Puerperal Fever" and the Regulations in Regard to Notification of Same. (Der Begriff "Kindbettfieber.") O. v. Herff.
92 Appendix as Sole Content of Hernia. (Processus vermiformis als alleiniger Inhalt des Bruchsackes.) Günther.

93 Old Foreign Body in Jaw as Cause of Acute Conjunctivitis resembling a Gonorrheal Affection. (Fremdkörper im Oberkiefer.) M. Thorey.
94 Apparatus for Vibratory Massage of Prostate. A. Gunsett.
95 *Gauze and Cotton Case for the Office. (Watte und Gazekästchen.) L. Grünwald.

85. Artificial Pneumothorax in Treatment of Pulmonary Affections.—Schmidt has applied in 24 cases "compression therapy," as he calls injection of a gas into the chest to compress and thus immobilize the lung, according to Forlanini's and Murphy's technic. In 13 cases the trouble was a tuberculous process; in 8, bronchiectasia, and in 3, inspiration pneumonia or fetid bronchitis. His experience confirms that of others in respect to the frequency of adhesions which render the procedure impossible in about 23 per cent. of the cases which otherwise indicate it; the adhesions prevent complete pneumothorax, but by repeating the injection at various points it is sometimes possible to induce sufficient compression. In tuberculous cases suitable for this treatment, the results are often surprisingly good, he says, but the patients must be carefully selected, and the compression must be only gradually induced and increased to the indicated degree, and it must be prolonged over years in some cases. The results were negative in the cases of bronchiectasia, the injury of the lung tissue being too severe for repair by this means unless the compression is applied earlier. The conditions are different in pneumonia or fetid bronchitis resulting from inspiration of foreign matter, and it is in this group of cases that the best results are obtainable from artificial pneumothorax. The morbid process began to heal at once as soon as the parts were immobilized by the pneumothorax. He discusses the technic in detail, expressing his preference for sterile air, controlled by Roentgen examination. The air was always compressed to three atmospheres in his cases. The loss from absorption of the oxygen is compensated by the advantages of this simple technic. As a rule, he says, there should be no overpressure of the gas left in the chest, although this is sometimes unavoidable.

86. Minimal Demand for Albumin in the Diet.—Forster calls attention to the frequently overlooked fact that the body needs ash elements as well as albumin, fat and carbohydrates. These ash elements are found mostly in the albuminoid elements of the food, and consequently the body suffers from a lack of ash elements if the albumin is cut down to an unduly small proportion in the dietary. Besides this, the body also suffers from a lack of the digestive ferments, internal secretions, etc., which are formed more or less from the products of the decomposition of albumin. For these reasons he advises ample supply of albumin, keeping well above the minimal physiologic demand.

89. Serum Treatment of Epidemic Cerebrospinal Meningitis.—Többen reports 66 cases of this disease at Bochum. The mortality in 37 cases treated by lumbar puncture alone was 56.7 per cent., while it was only 16.6 per cent. in 12 cases in which the serum treatment was begun the first or second day of the disease. The death rate grew constantly higher the later the serum treatment was instituted, the total mortality in the 29 serum-treated cases being 34.5 per cent.

90. General Anesthesia with Ethyl Chlorid.—Herrenknecht states that he has never had a mishap in 3,000 anesthesias with ethyl chlorid. The course and other details are described and the literature on the subject reviewed, his verdict being very favorable to this method of anesthesia. He always supplements the ethyl chlorid with chloroform or ether for a long operation. None of the mishaps attributed to ethyl chlorid bear investigation, with the exception of one case in which the patient was given 150 grains of ethyl chlorid within three minutes. As the respiration stops first, and the heart keeps on beating for a time, artificial respiration should be the first measure applied in case of asphyxia, with, possibly, massage of the heart, and the patient will be promptly restored, as the extremely volatile drug escapes from the body so rapidly. He regards it as the least dangerous of any anesthetic known to date.

95. Gauze and Cotton Case for the Office.—A ten-yard strip of gauze, about an inch wide, is wound on a roll with a strip of paper the same size covering it, as ribbon is put up for sale. This roll fits in one side compartment of a nickel box; the other compartment contains a similar roll with paper, but with cotton instead of gauze. The cotton roll is about two inches wide and is cut across into inch strips, each strip lapping over the preceding strip. The ends of the gauze and protecting paper and of the cotton and protecting paper emerge through slits below, each slit protected by a flap cover. The lower compartment of the box is a drawer that contains material for arresting hemorrhage, etc. By drawing out the drawer the rest of the case can be readily sterilized in steam.

Therapie der Gegenwart, Berlin.

November, XLVIII, No. 11, pp. 481-528.

96 *Treatment of Tuberculous Joint Affections. (Gelenk-Tuberkulose.) M. Martens.
97 *[illegible]on of Escalin on Gastric Mucosa. (Wirkung des Escalins auf die Magenschleimhaut.) E. Mal.
98 Acute Hemorrhagic Pancreatitis Cured by Tamponing. A. Stieda.
99 Nucleogen for Children with Nervous Affections. (Verwendung des Nukleogens bei nervenkranken Kindern.) J. Hoppe.
100 Endoscopy of the Urethra. (Endoskopie der Harnröhre.) H. Goldschmidt.
101 *Action of Serum from Thyroidectomized Sheep in Diabetes, and Its Sedative Properties. (Wirkung des Antithyreoidin Moebius im Diabetes.) A. Lorand.

96. Tuberculous Affections of the Joints.—Martens says that physicians should do their utmost to educate the public to "think aseptic." They should strive to train the public in hygiene from the cradle on, so that it could never happen again that a woman of 80 got a bath for the first time when she was admitted to the hospital, as in a recent experience in his service. He gives an illustrated description of his methods of treating tuberculous joints with the usual measures, adding that an early diagnosis is the main thing, and that cases in which differentiation is impossible at once would better be treated as for tuberculosis rather than by massage and exercise.

101. **Serum of Thyroidectomized Sheep or Goats in Diabetes and in Insomnia.**—Lorand calls attention to the way in which this serum makes those taking it sleep. They sleep almost as if victims of sleeping sickness; a dog fed on the milk from the goats was inclined to sleep all the time. Lorand believes that the thyroid gland is a factor in sleeping sickness, and has used thyroid treatment in some cases of that disease. The patients responded to the treatment as promptly and surprisingly, he asserts, as patients with myxedema. On the other hand, insomnia can be induced by ingestion of large quantities of thyroid extract. He has found the serum from thyroidectomized animals the most effectual of all the remedies he has ever given to cure most sleeplessness. Its prohibitive price has driven him to the milk of thyroidectomized goats, which seems to act in the same way although much less powerfully. In diabetes, symptoms are frequently observed which suggest thyroid insufficiency. The thyroid may at first functionate to excess and then become exhausted, with functional insufficiency as the result, developing later symptoms resembling those of myxedema. It follows, as he shows, that the serum or milk of thyroidectomized animals is contraindicated in severe forms of diabetes with acetone and acetic acid, especially in arteriosclerotics. On the other hand, it may give good results in cases of diabetes free from symptoms suggesting myxedema in any way. In nervous excitement, with inability to sleep, this treatment may give most excellent results.

Hospitalstidende, Copenhagen.

October 16, I., No. 42, pp. 1113-1136.

102 *Blood Pressure in Pulmonary Tuberculosis. (Om Blodtrykket ved Lungetuberkulose.) N. J. Strandgaard. Commenced in No. 39.
103 Extirpation of Lachrymal Sac as Standard Procedure in Treatment of Gonorrhea of Same. S. Schou.
October 23, No. 43, pp. 1137-1160.
104 *Indirect Elicitation of Typical Pain at McBurney's Point. (Indirekte Fremkaldelse af den typiske Smerte paa McBurneys Punkt.) T. Rovsing.
105 Centrifugation in Examining Sputum for Tubercle Bacilli. (Undersøgelse af Opspyt for Tuberkelbacciller ved Anvendelse af Centrifugering.) A. Beyer.
October 30, No. 44, pp. 1161-1192.
106 Trypsin in Treatment of Cancer. (Trypsinbehandling af maligne Nydannelser.) N. R. Blegvad.
November 6, No. 45, pp. 1193-1216.
107 Method of Treating Exstrophy of the Bladder. (En ny Metode til operativ Behandling af Ektopia vesicæ.) T. Rovsing.
108 The Ocular and Cutaneous Reactions to Tuberculin. (Nogle nyere Tuberkulosereaktioner.) H. J. Bing.

102. Blood Pressure in Tuberculosis.—Strandgaard reviews the literature on this subject and gives the findings in regard

to the blood pressure of hundreds of patients at the Boserup sanatorium. The findings the first and the last day of their stay in the sanatorium are tabulated for comparison. His conclusions are that the more pronounced and advanced the tuberculosis, the lower the blood pressure, as a rule. A low blood pressure may help to differentiate tuberculosis in dubious cases, and show whether a tuberculous process is active or latent. Determination of the blood pressure may also direct attention to some complication elsewhere, such as nephritis or heart disease. It may also prove useful for the prognosis. In 174 adults and 163 children cured or materially improved, the average pressure was 125, while it was only 121 in 234 patients only moderately or not at all improved, and it averaged 108 in 21 adults and 13 children whose disease continued a progressive course, and in 17 patients who succumbed. In each group there was a wide range of the blood pressure in individual cases, but the general average showed a drop from 125 to 108 between the first and last group. The discovery of unusually high blood pressure suggests the imminence of hemoptysis, and treatment should be instituted to reduce the pressure. The partial dependence of the blood pressure on the conditions in regard to the nourishment confirms the importance of superalimentation. Repeated determination of the blood pressure will also prove a guide as to pushing and continuing superalimentation. The indications to be learned from the blood pressure will be much more exact and instructive, he adds, when our present defective technic is perfected, and when we know more about the physiologic blood pressure. It is not a constant element, like the body temperature, but varies, like the height, weight, etc. A somewhat low blood pressure in one individual may be the physiologic optimum in another. It is impossible at present to say whether the low blood pressure in tuberculosis is primary or secondary, but its rising or falling with healing or progressive lesions suggests that it is secondary. A better oversight might be obtained from the "pulse pressure," as the difference between the extremes of pressure is called, instead of estimating the maximal pressure only.

104. See abstract No. 98 in THE JOURNAL, Nov. 30, 1907, page 1822.

Hygiea, Stockholm.

July, LXIX, No. 7, pp. 657-750.

109 *Abdominal Pain. (Smärtor i buken.) K. G. Lennander.
110 Treatment of Syphilis with Mercury Salicylate and "Mercuriol" Oil. E. Welander.
111 Three Cases of Cesarean Section. (Tre kejsarsnitt.) O. Lundblad.
112 Treatment of Eclampsia. Id.

No. 8, pp. 753-832.

113 *Temporary Gastrostomy in Case of Ulcer in Stomach or Duodenum or Perforating Ulcer. K. G. Lennander.
114 Mortality and Morbidity of Weakly Infants in Institutions. (Sjuklighet och dödlighet under första lefnadsåret, etc.) H. Ernberg.
115 Abscess of the Liver. (Lefverabscess.) R. Carlson.
116 Gastric Ulcer. Six Cases of Perforation. (Magsår.) G. Naumann.

September, No. 9, pp. 833-934.

117 Vaginal Cesarean Section. (Om det s. k. vaginala kejsarsnittet.) C. F. Josephson.
118 Study of Feces of Sick Infants. (Tarmuttömningarna inom den spädа barnaåldern.) W. Wernstedt.
119 Acromegaly. V. Berglund.

109. This article appeared in THE JOURNAL, Sept. 7, 1907, page 836.

113. **Temporary Gastrostomy in Perforating Gastric Ulcer, Intestinal Paralysis, Etc.**—Lennander has been teaching for the last two years the great advantages to be derived from a temporary gastrostomy in certain threatening conditions. He here reviews the indications for it and reports in detail an instructive case history to support his assertions. It may be a lifesaving measure in case of acute dilatation of the stomach in which the stomach tube has failed to give relief; in perforation of an ulcer in stomach or duodenum if immediate gastrojejunostomy is contraindicated, or there is doubt whether the suture will hold or whether there may not be ulceration at another point, when the peritonitis is so serious as to suggest impending paralysis of the intestines, and in case of paralysis of the small intestine when the upper part is also involved. He adds that the future will show whether gastrostomy may not be preferable to a fistula into the small intestine in all cases of paralysis of this bowel. A temporary gastrostomy with jejunostomy is also indicated in chronic ulcer with stenosis when the patient's strength will not allow the contemplated gastrojejunostomy. The temporary gastric fistula may further serve for feeding the patient when food is refused for any cause.

Books Received

JAHRESBERICHT UBER DIE FORTSCHRITTE IN DER LEHRE VON DEN PATHOGENEN MIKROORGANISMEN UMFASSEND BAKTERIEN, PILZE UND PROTOZOEN. By Dr. med. P. von Baumgarten, Professor der Pathologie an der Universitat Tübingen, and Dr. med. F. Tangl, Professor der Allgemeinen und Experimentellen Pathologie an der Universitat Budapest. Einundzwanzigster Jahrgang, 1905. Paper. Pp. 941. Leipzig: Verlag Von S. Hirzel, 1907.

SULPHUROUS ACID AND SULPHIDES. Part III of Bull. 84, Influence of Food Preservatives and Artificial Colors on Digestion and Health. By H. W. Wiley, M.D., with collaboration of W. D. Bigelow, F. C. Weber and others. Bureau of Chemistry, U. S. Department of Agriculture. Paper. Pp. 1041. Washington: Government Printing Office, 1907.

MINOR SURGERY. By Edward Milton Foote, A.M., M.D., Instructor in Surgery, College of Physicians and Surgeons (Columbia University). Cloth. Pp. 752, with 407 illustrations. Price, $5.00. New York: D. Appleton & Co., 1908.

GYMNASTIQUE RESPIRATOIRE PENDANT LES MOUVEMENTS. By Fr. Guermonprez. Cloth. Pp. 470, with 220 illustrations. Paris: J. Rousset, 1, rue Casimir-Delavigne, 1907.

DIEU AND LES RELIGIONS DEVANT LA SCIENCE. Albert and Alexander Mary. Paper. Pp. 26. Price 1 Fr. Paris: Jules Rousset, 1, rue Casimir-Delavigne, 1908.

LE TROISIÈME SEXE. LES HOMOSEXUELS DE BERLIN. By Dr Magnus Hirschfeld. Paper. Pp. 103. Paris: Jules Rousset, 1, rue Casimir-Delavigne, 1907.

TRAITÉ CLINIQUE DES MALADIES DE L'ESTOMAC. By Dr. Lucien Pron (d'Alger). Paper. Pp. 417. Paris: Jules Rousset, 1, rue Casimir-Delavigne, 1907.

MEDICAL AND SURGICAL KNOWLEDGE OF WILLIAM SHAKESPEARE. By John W. Wainwright, M.D. Cloth. Pp. 78. New York: Published by the Author.

THÉORIES MODERNES SUR LA MATIÈRE. By M.-Emm. Pozzi-Escot. Paper. Pp. 96. Paris: Jules Rousset, 1, rue Casimir-Delavigne, 1908.

LA RADIO-ACTIVITÉ DE LA MATIÈRE. By M Emm Pozzi-Escot. Paper. Pp. 108. Paris: Jules Rousset, 1, rue Casimir-Delavigne, 1908.

ANEMIA IN PORTO RICO. Report of the Permanent Commission for the Suppression of Uncinariasis, 1906-1907. Paper. Pp. 187.

TRANSACTIONS OF THE INDIANA STATE MEDICAL ASSOCIATION. Cloth. Pp. 584. Indianapolis: W. B. Burford, 1907.

NEW PATENTS.

Recent patents of interest to physicians:

872217. Syringe. Arthur E. Bonesteel, Denver.
872126. Massage implement. Henry G. Hart, Mount Vernon, N. Y.
872148. Electrotherapeutic apparatus. Nelson H. Raymond, Brooklyn, and J. C. Vetter, Coney Island, N. Y.
38898. Design, sterilizing receptacle. Edward Kronman, New York.
872343. Speculum. Frank E. Griswold, Geneva, Ohio.
872344. Speculum. Frank E. Griswold, Geneva, Ohio.
872567. Curette. Lewis G. Langstaff, New York.
872441. Bathing and massaging device. Anna Mattison, Kewanee, Ill.
872669. Soda fountain. Joseph A. McCormick, Chicago.
872448. Stethoscope. Dunlap P. Penhallow, Boston.
872379. Receptacle for antiseptic bandages. Otto C. Schulz, Chicago.
872851. Truss. George Q. Seaman, New York.
873497. Receptacle for powdered substances. Young K. Buell, New York.
873410. Indicating device for bottles. Julius Casaccia, San Francisco.
873021. Electrotherapeutic syringe. Harlow R. Cool, Bradford, Pa.
873028. Temperature regulator. Verner F. Davis, Orange, N. J.
873123. Massage implement. Henry D. Gardy, Philadelphia.
873059. Microtome. Hector Lebrun, Brussels, Belgium.
873076. Invalid lifter. George E. Olsen and O. J. Johnson, Muskegon, Mich.
873167. Maternity skirt. Robert H. Peters, Buffalo, N. Y.
873595. Microtome. Richard H. Pletzsch, Washington, D. C.
873275. Catheter-users portable mechanical assistant. James F. Spalding, Kansas City, Mo.
873728. Syringe. Benjamin F. Crisenberry, Elwood, Ind.
874178. Cautery. Lee De Forest, New York.
874310. Pharmaceutical coating. Eugene Donard and H. Labbe, Paris, France.
873931. Register-operating device for massage treatments. John W. B. Faris, Skidmore, Texas.
874092. Ear-tip for stethoscopes and other aural instruments. Coval H. Liverpool, Roston.
873891. Production of nitric acid or nitric acid from atmospheric air. Harry Pauling, Gelsenkirchen, Germany.
874251. Implement for massage, shampooing, and other purposes. Herman F. Schelling Weehawken, N. J.
873904. Apparatus for measuring the angles of sight. Eugene Schneider, Le Creusot, France.
873961. Siphon. Wm. S. Shields, Chicago.
873812. Apparatus for producing sublimed sulphur. Arthur Walter, Naples, Italy.

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